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business is to improve processes.

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THE INSIDE.



INDIA RUBBER WORLD

CAOUTCHOUC
NEVEA BRASILENSIS

GUTTA-PERCHA

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THE CURSE OF THE CALLOW CRITIC

YOUTHFULNESS is not a crime, nor is callowness, but is often very trying. The unfledged gawky cockerel in time becomes the cock of the walk. Then he may strut and crow and be admired, but not until then.

Each year a fresh crop of fledglings is graduated from excellent technical schools and turned into the manufacturing establishments of the land. Fresh from well equipped laboratories, crammed with exactness, burning to prove themselves, they want to change something. Some are set to testing rubber goods to see if they are up to specification. With what infinite care do they search for minute variations in color, texture, cure, weight, tensile strength. With what joy do they reject goods that are not in every respect what the specification demands, no matter whether they will do the work or not.

How severely just they are, and how they do clog the wheels of progress in their reverence for non essentials. If, in an order of black valves, one had a bluish cast would it pass, supposing that it were perfect in every other particular, that it answered every test, and supposing it were certain that it would outlast all of the rest? Suppose its rejection would entail much delay and loss of money; would it be passed? No, indeed.

The callow critic, bless his honest boyish heart, isn't trying to get things done! He is posing before his admiring self as a scientific, impartial judge, who knows not mercy, common sense, or business. Some day he will awake to his own absurdity and be a help to his employer and to the manufacturer. Then he will get a better job, and another fledgling will take his place and vex the paternal rubber man. Like the poor, the callow are always with us.

THE LONDON RUBBER CONGRESS.

THERE are indications that the coming International Rubber Exhibition will bring together in London the most important assemblage of men interested in rubber that has ever occurred in the history of the trade. There will be producers of and dealers in crude rubber and the materials used in connection therewith in the industry; makers of the machinery used in handling rubber, whether on plantations or in the manufacture of goods; representatives of every branch of the rubber goods manufacturing interest; botanists, chemists and other scientific experts whose work tends to the development in one way or another of the rubber business. Of course it is specimens of rubber and of appliances for dealing with rubber that will be considered by the casual observer as forming the exhibition; these are the articles to display which the Olympia building has been secured, and which will figure in the exhibition catalogues. But these displays without the attendance of practical rubber men would be of little benefit. It is what we shall designate as the coming Rubber Congress that will count.

There are still too many people who underestimate the value of industrial exhibitions, and especially those of an international character—people who consider such undertakings failures if the receipts do not equal the cost. As well might the public school system be voted a failure because it costs so much and brings no direct income. The industrial exhibition is educational in a broader sense than any other modern institution, and is to be credited to a large degree with the industrial progress of the last half century.

Not alone the country where an exhibition is held profits—that is a mere incident—but the whole world, more or less directly. The Philadelphia Centennial of 1876 doubtless was worth to America a thousandfold more than it cost, but America did not profit alone. The participation there of Germany, and the assertion by the German commissioner that the machinery exhibits from his country were “billig und schlecht” (cheap and nasty) led to the awakening of the manufacturing population of that country to their true standing in an important branch of production, and to a serious and ultimately successful effort to retrieve their reputation.

This may seem a digression from rubber, but there have been no rubber exhibitions in the past from which to draw illustrations for the purpose of this article. As

for the rubber men who will gather at London, we believe that it will be claimed by no one that he knows all about the business in which he is engaged, or that his own country can learn nothing about rubber from the practice in other countries. Hence the benefit of looking beyond the confines of one's own factory or office—whether to gain ideas for improving one's work at home or to gain a better footing in foreign trade.

There is one feature of the London Rubber Congress in which there is room for no element of competition—the bringing together of producers of rubber and those who consume it as manufacturers. A better mutual understanding on the part of these classes can hardly fail to benefit the whole trade. Whoever produces rubber should understand the wants of the factory, while the manufacturer will benefit by being on more intimate terms with the producers of the raw material he uses. London will offer the opportunity this year for the beginning of this new acquaintance, which we believe cannot be begun too soon or continued too long.

RUBBER SUPPLIES AND PRICES.

THE total receipts of rubber of all grades at Pará for the crop year ended June 30 last were 36,654 metric tons, or 80,638,800 pounds. This figure has been exceeded only once, in 1906-'07, when the arrivals totalled 38,005 tons. The first year in which the record reached 30,000 tons was 1901-'02, and the average for that and the succeeding four years was 31,596 tons, or 69,500,000 pounds. Taking five-year periods, we find that the annual arrivals of rubber at Pará have averaged as follows:

Five years ending June 30, 1893.....	tons	17,122
Five years ending June 30, 1898.....		20,946
Five years ending June 30, 1903.....		27,900
Five years ending June 30, 1908.....		34,609

During the era covered by the table the average annual production has more than doubled. From the first beginnings of the rubber trade there has been an almost steady increase in the exports from Pará, and the best rate of the past is not only being maintained, but exceeded. A question which now concerns very many persons is whether the production of rubber in the Amazon regions will continue to expand, and what will be the effect upon prices.

It seems to us that so far as the real "Pará" rubber is concerned—the product of the *Hevea*—the Amazon output will keep on growing until, perchance, it is checked by competition elsewhere. First to be utilized in the industries, Pará rubber still holds first place in the world's markets. There are uses for rubber for which this particular class of material is indispensable. There are certain demands for goods which must be met, regardless of the cost of crude rubber, and the forests have always responded to every demand upon them for rubber, even if manufacturers have had to pay more and more for it.

The native supplies of *Hevea* are seemingly inexhaustible, but their yield of rubber is held in check by the limited labor force available, and by the remoteness or lack of accessibility of the trees. But gradually these drawbacks have been overcome to an extent, as is moved by the fact that more rubber comes out every year. The fixed population of rubber gatherers grows somewhat, and the means of reaching rubber forests and of shipping their product are improving all the while.

These facts, considered alone, may not appear encouraging to the rubber planting interest. But the point may be made here that the increase in the output of rubber has been due to the growing demand for rubber goods—a demand so pressing as to put up the price of the raw material in spite of the constantly larger production. Should present conditions continue, it would seem reasonable to look for a gradual extension of the rubber areas worked in the Amazon region, to meet an ever growing demand for rubber goods, with prices of crude rubber maintained at the present or a higher level.

In considering the continuation of "present conditions," account must be taken of other sources of forest rubber than the *Hevea* species. Every now and then rubber from a new source is reported, with a rapid increase in output until the zenith is reached, when an equally rapid decline occurs. Thus the rubber exports from Colombia increased in a few years from 250,000 pounds to nearly 7,000,000, falling again to the first figure named. Or take Lagos in West Africa—56 pounds of rubber shipped in 1893; 6,484,363 pounds in 1896; and only 131,311 pounds in 1903, ten years from the beginning. And Mexico, after exporting 142,655 pounds of rubber in the fiscal year 1896-97, shipped 10,321,247 pounds in twelve months a decade later, putting Mexico second in rank among rubber producing countries. Of Mexico's present output probably 95 per cent. is "guayule," the supply of which is bound to go the way of all forest rubber sources with the exception of the *Hevea*—trees which survive tapping for a lifetime.

It must be noted, too, that not all the rubber shipped down the Amazon is "Pará." There are millions of pounds annually of "caucho," a rubber obtained from a different species than *Hevea* by felling the trees and exhausting the supply. In brief, the tendency is toward the practical disappearance of the various kinds of forest rubber other than *Hevea*. Of this sort there is enough, probably, to meet the world's total demand for rubber, but the output is limited, as already pointed out, by lack of accessibility and small native labor supply.

The producers of plantation rubber have for their encouragement, therefore, the prospect of a continued and increasing demand for rubber, plus a decline of native supplies. Without plantations the supply of rubber must in time diminish, since no prices within reason would lead to the exploitation of great areas of *Hevea* rubber. The danger of overproduction, therefore, does not seem imminent, so long as there are so many single rubber fac-

tories each consuming more rubber than is produced in all Ceylon and Malaya, and others are likely to increase their consumption as more plantations are opened.

We do not overlook the fact that *Castilloa* and other rubber species than *Hevea* are being cultivated successfully, but not in this generation does it seem likely that their product will more than offset the exhaustion of natural supplies of rubber at the ordinary rate from trees of the same species.

THE MANY BOOKS ON RUBBER.

IF the making of many books on rubber should continue long at the present rate, we may expect to see Mr. Andrew Carnegie called upon to supply a library building large enough to hold them all. The present volume of the literature of rubber is all the more notable when compared with the condition which existed in the early days of THE INDIA RUBBER WORLD, when to repeated inquiries for books treating of this or that branch of the rubber interest the answer had to be made that no such works existed—or at least nothing practical.

One result of the coming rubber exhibition at London is likely to be some important additions to the world's stock of printed matter pertaining to rubber, just as happened when Ceylon, two years before, held a rubber exhibition with such marked success. And, as will be seen on another page, the annual prize award by the Colonial Museum of the Netherlands is to go next year to the author of the best essay on india-rubber or its applications. The honor of possessing a medal from the museum at Haarlem is not to be lightly esteemed, so that we may expect the prize committee to have to deal with the work of many competitors in making the award on rubber.

The rubber interest in every branch is to be congratulated upon the growing habit among workers in rubber of writing on the subject. The greatest advancement is made in that industry in connection with which there is the freest exchange of experiences and opinions, and the rubber trade has been handicapped in the past by a too general disposition on the part of workers in it to guard mysteries, many of which doubtless had better have been discarded. We do not doubt that the success attained by the Ceylon and Straits rubber planters has been due in large part to the open-minded spirit of co-operation manifested by the planters. Not one of these, we are sure, is worse off to-day by having helped his neighbor planter in getting a start in the new business of rubber culture, while the whole world is benefited by the results of the planters' work. We hope to see the exchange of facts and theories grow—whether in the manufacturing or cultural branches of the rubber interest—and the more books the better, so long as based upon intelligent and honest effort.

A RUBBER "TRUST" IN RUSSIA, such as is reported to have been formed, seems about the natural thing in the world. There the government seems disposed to regulate everything, and the regulation of one big concern in a given industry probably is simpler than having to deal with more. It is hardly to be expected, however, that the government will seek absolutely to prevent other rubber factories from being started in Russia, in which event we may expect to see history repeated in Russia, as elsewhere, and new factories coming upon the market for sale.

SINCE THE INDIA RUBBER WORLD has done its share in giving publicity to the plans of The Amazon Trading and Development Co. (Cleveland, Ohio)—and without any charge—it is rather disappointing to have to note that, as far as heard from, the rubber trade of the world has not yet been revolutionized. The company's prospectus has been discussed in our exchanges from points as far apart as Rio de Janeiro and Kuala Lumpur, in all of which the people are impatiently waiting to see the company send the price of rubber up to \$1.50 a pound.

THERE IS NO INDICATION OF TRADE DEPRESSION in the details of rubber goods exports from the United States during the first 11 months of the fiscal year beginning July 1 last. The figures are larger for every class of goods specified, and the total for the period is 11 per cent. greater than for the corresponding months of any previous year. The gain was most marked, however, in rubber footwear.

PRIZE FOR AN ESSAY ON RUBBER.

IN accordance with a resolution adopted at the annual meeting of the board of directors for 1908, the managing committee of the Colonial Museum of Haarlem will award a gold medal, or a sum of 150 florins [= about \$60], for the best essay on the subject of Caoutchouc or Rubber.

The committee wishes to make the field to be covered by this prize essay as broad as possible, and parties submitting essays need not, therefore, confine themselves to the cultivation of caoutchouc and subjects connected therewith, such as the gathering of the milk sap, the coagulating and drying, inasmuch as technical essays dealing with the further industrial preparation, manufacture and application of rubber goods will likewise be considered. Finally, the committee will likewise be pleased to receive reports of scientific investigations on the subject of rubber, both chemical and botanical, including determination of the commercial value of the product, and intends to exclude from competition only such essays as consist merely of extracts and recapitulations derived from the current literature on the subject of rubber. The committee consequently requires all essays to contain at least some addition to our present knowledge of rubber, or else to add to the many purposes for which this crude material is adapted, some novel application for industrial or domestic use or for purposes connected with the fields of hygiene, sport, etc. In this connection the committee urgently requests that attention be paid to the fact that an International Rubber Exposition will be held in London in September, 1908, and that it will, therefore, be advisable for the parties who intend to enter this present competition to duly consider, in composing their essays, the results and publications of the said exposition.

In case it should be considered advisable, a gold and silver medal (or 100 florins) will be awarded in addition to the first prize, already referred to. Silver or bronze medals will, however, be awarded for all such essays as shall be considered to possess sufficient intrinsic merit.

All essays, which may be either in the Dutch, English, German, or French language, are to be addressed on or before December 31, 1909, to the director of the museum, at Haarlem, Netherlands.

THE EDITOR'S BOOK TABLE.

ON THE PLANTATION, CULTIVATION, AND CURING OF PARA Indian Rubber (*Hevea Brasiliensis*). With an Account of its Introduction from the West to the Eastern Tropics. By H. A. Wickham, sometime commissioner for the introduction of the Para (*Hevea*) indian rubber tree for the government of India and inspector of forests B. H. With illustrations by the author. London: Kegan Paul, Trench, Trübner & Co., Limited. 1908. [Cloth. 8vo. Pp. vi + 78 + 10 plates. Price, 3s. 6d., net.]

THIS is a book of no little historic interest, on account of the agency of its author in the introduction into India of the original specimens of *Hevea Brasiliensis* from which have been derived practically all of the millions of trees of this species now under cultivation in the old world. Mr. Wickham reproduces from an earlier work of his, published in 1871, a sketch of the leaf and fruit of the South American rubber tree, which he believes to have been probably the first drawing of this species ever made from nature. This drawing, with the specimens sent to the royal gardens at Kew, enabled the late Sir Joseph Hooker, then director, to determine botanically the tree producing "Para rubber." The name given was *Hevea Brasiliensis*, though the specimens in question really came from the headwaters of the Orinoco.

Mr. (later Sir) Clements R. Markham, then connected with the India office, and who had successfully introduced *Cinchona* (Peruvian bark) cultivation into India, was interested in following this up by introducing rubber culture there, and the result was the despatch of Mr. Wickham to the Amazon to procure seeds. The record of his experiences is an interesting story of adventure, and his expedition was eminently successful. He was able to obtain upwards of 7000 seeds of *Hevea* from large trees which were being or had been worked for rubber in the forests covering the broad plateaux between the Tapajos and Madeira rivers. These seeds were sent to Kew and germinated, and the plants sent to the Far East, notably to the botanic garden at Peradeniya. Mr. Wickham points out that his suggestions regarding the proper *habitat* of *Hevea* were not adopted, and hence the results attained in the case of many of the plants were less satisfactory than might otherwise have been the case. In support of this contention Mr. Wickham's original suggestions are reprinted in this book.

Mr. Wickham, who still maintains a lively interest in rubber, and is a rubber planter himself, is under the impression that it is a mistake to clear land for *Hevea*, as is now done in Ceylon and Malaya, asserting that this species is to be treated rather on lines of forestry than those applicable to garden or orchard planting. He considers the loss of *humus* and surface soil involved in the practice of burning over land a very serious matter, and his plan is designed to conserve as far as possible the natural plant food accumulation of the surface soil. He recommends wide planting and the "topping" of the young trees to assist them in attaining large girth in the lower bole—the crop area of the trunk. He deprecates cultivation of the soil around the *Hevea* for the reason that it damages the roots near the surface, and *termites* (white ants) are prone to attack the wounded roots of young trees with the result of ultimately killing them.

Mr. Wickham is strongly inclined to favor the smoking of *Hevea* rubber on plantations, feeling that the superior quality of Amazon rubber is due in part to the smoke cure. By the way, he has patented a machine, illustrated in the book, which provides a rotating device for exposing thin layers of latex for treatment by smoke, the rubber being coagulated on the inner surface of a cylinder. Mr. Wickham believes in planting rubber for rubber's sake, and not in connection with any catch crops, and he agrees with Mr. Herbert Wright that the proper system of tapping involves the drawing of supplies of latex by merely cutting, and not excising or stripping off lactiferous tissues. This book no doubt will be read with wide interest, though it is not offered as a complete manual of rubber culture.

No explanation is offered by the author of his use of the term

"Indian rubber"—a form of spelling which does not appear in any other modern work on the subject.

YEAR BOOK OF THE RUBBER PLANTERS' ASSOCIATION OF Mexico. 1907-08. Mexico: Printed at Hall's Printing Establishment. 1908. [Paper. 8vo. Pp. 45.]

THIS is the official report of proceedings at the first general meeting of the Rubber Planters' Association of Mexico, held in October last, prefaced by a brief history of the movement which led to the formation of this body.

IN CURRENT PERIODICALS.

NOTES on *Termes gestroi* and Other Termites [white ants] Found on Rubber Estates in the Federated Malay States. By H. E. Pratt. *Agricultural Bulletin of the Straits and Federated Malay States*, Singapore. VI=5 (May, '08). Pp. 157-169.

Observations sur la Culture, l'Exploitation et le Rendement du "Maniçoba." By Augusto Cardozo, governor of Inhambane, Portuguese East Africa. *Journal d'Agriculture Tropicale*, Paris. VIII-84 (June, '08). Pp. 163-167.

THE LATE HENRY B. CHAMBERLAIN.

NOT only as a matter of history but because of his many friends in the rubber trade, THE INDIA RUBBER WORLD now reproduces the only photograph in existence of the late Henry B. Chamberlain.

Mr. Chamberlain, it will be remembered, was for many years a manufacturing chemist in Waltham, Massachusetts. In the early "eighties" he began the manufacture of golden sulphuret of antimony, with a small factory in Newtonville, Mass., inventing not only the process used but designing the machinery. He manufactured and sold the product himself and thus came in contact with all of the rubber manufacturers who used antimony. In 1899 the business was converted into a corporation known as the Atlas Chemical Co.

Mr. Chamberlain died November 2, 1905 in his seventy-second year, leaving his interest in the business in trust for the benefit of his brother and others. Mr. Chamberlain has very much of a character—witty and oftentimes caustic in his remarks, but always with a kindly twinkle in his eye that belied his sometimes surprisingly crisp rejoinders. He was exceedingly well informed, and his visits to the various manufacturers were always considered treats.

HYDROLENE B-260.

A RUBBER assistant that is now being used in connection with the reclaiming of rubber, and also rubber compounding, is known as Hydrolene B-260. From a sample submitted to THE INDIA RUBBER WORLD, it would seem to be a petroleum product, and is used in reclaiming rubber, instead of stock oil or residuum. The manufacturers advise the use of from 3 to 10 per cent. in reclaiming, and direct that it be cut in small pieces, and thoroughly mixed with powdered shoddy before devulcanization. It is said that after devulcanization no trace of Hydrolene can be found. Used as a rubber substitute, from 10 to 25 per cent. is advised, and the claim is that it prevents drying out, and blistering, and also mitigates the harsh action of free sulphur.



THE LATE H. B. CHAMBERLAIN.

The Hodgman Rubber Factories.

A DESCRIPTION of the factories of the Hodgman Rubber Co. (New York), to be adequate, covers so much of the history of the rubber trade at its best that one hardly knows where to begin. There are, in fact, two separate plants—one at Mount Vernon, New York, consisting of a four-story building, 220 × 40 feet, which is used wholly for the making up of rain coats and mackintoshes, the cloth for the latter being prepared at the other factory at Tuckahoe.

Speaking accurately, the other factory is really a number of plants grouped on both sides of the Bronx river. Up to a year ago the work was done in the stone mill originally purchased by Daniel Hodgman in 1851, and in a number of large detached wooden and brick buildings, each of which is devoted to some special line of Hodgman product. Within the last year, however, a fine reinforced concrete building, five stories in height and containing some 60,000 feet of floor space, has been erected and some of the departments run in the separate buildings have been moved into the new one. Each of these factories has its separate boiler and engine plant, but so joined that each set of boilers can be used in connection with the other. This is possible because the Bronx is a small river and the factories close to its banks (in spite of the historic fact that during the war of the revolution the English government ordered its war vessels to proceed up the Bronx to White Plains and wipe out the Yankees).

It is interesting to note, by the way, that this river Bronx is the dividing line between the village of Tuckahoe and the city of Yonkers. The original plant, the executive offices, and most of the land owned by the company are in Yonkers, while the new factory is in Tuckahoe. The power plant of the Hodgman factories consists of 8 boilers of 100 H.P. each, 2 Cooper-Corliss tandem compound engines of 450 H.P. each, 3 generators for electric lighting and for running machinery in different departments of the factory, and an unusually good equipment of fire, feed and other pumps.

The grinding and calendering rooms in the factories, particularly in the new one, are wonderfully effective and well arranged. The equipment of machinery, roughly, is 4 washers, 12 mixers and warmers, 3 jumbo mixers, and 10 regular and special calenders. In the new mill the mixing and calendering equipment is on the first floor, with the shafting below the floor level, and the work so arranged that the washed rubber goes directly to the vacuum dryers, and thence to the gum storage room and next to that the compound room.

As might be expected, the factory is fitted with many special machines, several being the invention of Mr. F. A. Hodgman, superintendent of the factory. An extension building, also of reinforced concrete, connecting from the first floor of the main building, is utilized for a huge vulcanizing room, where steam-cured goods, such as druggists' sundries of all sorts, and white goods are cured. The floor above in the same building is the dry heater room where there are 6 large dry heaters, and place for 6 more.

To return to the main new building, the departments naturally divide themselves about as

follows: On the ground floor, washing, drying, mixing, and calendering. The second floor contains the general assembling room for all the specialties made in the factory, and one of the finest paper box plants that could possibly be installed. The third floor contains the cutting room, the band department, the fine cloth storage department, and the department where fabrics are examined before being converted. The fourth floor is devoted to the making up of clothing and various specialties, and



THE LATE DANIEL HODGMAN.
[Founder of the Hodgman Rubber Factories.
Born 1808; died 1874. From an old
print.]

the top floor is devoted wholly to the manufacture of druggists' sundries and specialties, and is a wonderfully attractive and commodious making-up room. The roof of the building is surrounded by a 6-foot parapet. The entire equipment of the new mill is strictly up to date, furnishing every modern advantage for the most satisfactory and economical production of the various lines which this company manufactures. The establishment is thus one of the oldest as well as one of the most modern rubber factories.



THE HODGMAN RUBBER FACTORIES.
[View of the plant at Tuckahoe, including the extensive new building. The view at the upper corner, on the left, is of the factory at Mount Vernon.]

THE LONDON RUBBER EXHIBITION.

CONTINUED evidence comes to hand of the interest which is felt in every branch of the rubber interest in the International Rubber and Allied Trades Exhibition, to be held in London September 14-26 next. In the last two issues of THE INDIA RUBBER WORLD various details have appeared regarding this event, and later news confirms what has been said already regarding the activity in the way of preparations.

THE idea of holding an international rubber exhibition at London this year appears to have been suggested first by Mr. Harold Hamel-Smith, in view of the great success of the Ceylon rubber exhibition two years ago. The nucleus of the present advisory committee was formed among Mr. Hamel-Smith's personal friends interested in rubber, after which the service of an experienced exposition manager was secured, and the work of organization has progressed until success is now assured. Mr. Hamel-Smith is the editor of *The Tropical Life* (London), a high class publication devoted to rubber and other planting interests in the tropics, on which subjects he is an authority of note.

THERE have been added to the advisory committee the names of his Excellency the governor of Pará, Dr. Augusto Montenegro; also Dr. Jacques Huber, director and curator of the Pará museum. All parcels or rubber forwarded from Pará to the exhibition will be exempt from export duty, and the Booth Steamship Co. have promised free transportation for such rubber.

THE announcement that Mr. E. E. Buckleton, of the North Western Rubber Co., Limited (Liverpool), is arranging for a congress of all of the European rubber manufacturers in London at the time of the International Rubber Exhibition is of more than passing interest. No man knows more European rubber manufacturers than Mr. Buckleton, and no one is better known or better liked. His ever present optimism, his constant geniality, and his genuine good fellowship, are very much appreciated, and the congress is sure to be a great success.

THE Dutch government, as mentioned already in these pages, has appointed a commission to assure the adequate representation at the rubber exhibition of Holland and her colonies. In this connection *De Indische Mercur* remarks: "The exposition may be considered as highly important for Surinam (Dutch Guiana), more especially in relation to the export of balata. The government of Surinam has consequently expressed its willingness to pay a considerable part of the expense incurred for sending exhibits from the said colony."

Active steps in connection with the rubber exhibition have been taken by the Algemeen Nederlandsch-Indisch Rubber Syndicaat (General Dutch Indies Rubber Syndicate), the headquarters of which are at Batavia, Java. To insure a representative display of rubber products of the Dutch East Indies, the syndicate has formed a committee, under the presidency of Dr. M. Treub, the eminent director of 's Lands Plantentuin (the botanical institute), at Buitenzorg, Java. Planters are urged to interest themselves particularly in *Ficus elastica* exhibits, on account of the success attained with this species in Java and Sumatra.

MEXICO will be represented by a display of plantation rubber (*Castilloa elastica*), from which much is expected. As these pages go to press the specimens which will go to make up this display are being shipped from Vera Cruz to London. There they will be in charge of Mr. Horace E. Levesley, managing director of the Mexican Rubber Co., Limited, and Mr. H. Hamel-Smith, editor of *London Tropical Life*. The *Mexican Herald* hears that twenty-five or thirty plantations in Mexico will make exhibits at Olympia, in September, including—

Mexican Rubber Co., Limited—Plantation "La Esperanza," in Oaxaca.

Orizaba Rubber Plantation Co.—Plantation "Chival," in Chiapas.

Mexican Mutual Planters' Co.—Plantation "La Junta," in Vera Cruz.

Mexican Plantation Association—Plantation "Lumija," in Chiapas.

La Zacualpa Rubber Plantation Co.—Plantation "La Zacualpa," in Chiapas.

The director of the guayule experimental planting station maintained by the Continental-Mexican Rubber Co., who is a member of the Planters' Association, is organizing a comprehensive exhibit of guayule and its rubber product for the Olympia show.

THE committee think that in this first exhibition it will not be advisable that they should take upon themselves the arranging of rubber competitions for the whole world. They suggest that the exhibitors of each country, if they wish to do so, arrange competitions among the producers of that country. Should any rubber producing country wish to arrange special prizes, they are at liberty to do so, and the London committee are prepared to supply handsome diplomas, free of charge, to exhibitors to whom awards are made, but they do not supply medals. If requested, however, they will procure medals at cost price for committees in other countries. Those intending to have competitions are requested to arrange for the judging.

MESSRS. GOW, WILSON & STANTON, Limited, an important firm of tea and rubber and share brokers, of London, who have from the beginning taken a deep interest in the development of rubber culture, are to offer as a special award, a beautiful silver bowl, valued at 25 guineas [=£127.75], for the most economical and complete process for preparing plantation Pará rubber from the latex, which will give the best and most uniform product on a large scale. Such a prize, coming from such a source, is not only sure to attract much attention, but to bring forth something of real value to rubber planters. It is to be hoped that every one familiar with the gathering of Pará rubber will compete, not so much for the prize itself, but for the valuable service that the various suggestions will afford, in bringing about a practical, cheap, and successful method of handling the latex on a large scale. The conditions that will have to be complied with by competitors will gladly be supplied by the management of the International Rubber Exhibition.

LIPTON'S TEA PROFITS.

LIPTON, LIMITED, the great British tea trading company, report that their volume of business for the past year exceeded by upwards of £1,000,000 that for any previous year. The company was formed ten years ago to take over the business of Sir Thomas J. Lipton, who since has filled the office of chairman of the board. Meanwhile the net profits—after providing £207,868 for depreciation—have been £1,688,493 16s. 10d. [= \$8,217,055.28]. The dividend on the ordinary shares has averaged 8.35 per cent. for the ten years. The share capital has been £2,000,000 and the debenture capital £500,000. At the meeting on June 10 it was voted to increase the share capital by £250,000, raising the total of the company's issues to £2,750,000 [= \$13,382,875].

Space is given here to these figures because they have a bearing upon the prosperity of British Asia—the source of the Lipton teas—and whatever tends to general prosperity there may be expected to have a favorable effect upon the development of rubber culture. Besides, Sir Thomas Lipton is believed to have invested some of his large profits from tea in rubber plantations, and he may yet figure prominently in this new field.



THE NEW ENGLAND RUBBER CLUB AT POINT SHIRLEY.

New England Rubber Club's Midsummer Outing.

YES, it was an unusually high tide at Point Shirley Club, Winthrop, Mass., on the afternoon of July 15—a tide of jolly, friendly, musically inclined rubber men, who to the number of 150 odd, members of the New England Rubber Club and guests, landed from the steamer *Winthrop* to enjoy one of the fish dinners that from time immemorial have made the place famous.

To begin at the beginning, the announcement circular of the outing was one of those rare works of art embellished with grotesque engravings that Mr. W. H. Gleason some years ago sprung on the Club, and it attracted much attention and made lots of fun.

The day's program covered a golf competition at the Country Club, Brookline, for the forenoon; a trip down the harbor on the steamboat *Winthrop* for the afternoon; a landing at Fort Andrews, where the Club was the guest of the officers of the Army Post there; a baseball game, bathing, and a personally conducted tour through the fortifications under the guidance of Major Henry C. Davis, who, with his aides, has so often made it pleasant for the members of the Rubber Club. From Fort Andrews the picknickers proceeded in the same steamer to Point Shirley Club, and after dinner in the same boat back to Boston.

ON THE "WINTHROP."

The New England Rubber Club, being somewhat exclusive, had the whole boat, with the Lynn Cadet Band, and incidentally a mighty good luncheon and a sufficiency of apollinaris and ginger ale. By the time the luncheon was finished they were at the pier at Fort Andrews, where they formed in line with Major Davis, Captain Matthews, Captain Long, Captain Lomas, Lieutenant Taylor, Lieutenant Bartlett, and Post Surgeon Peck in the lead and to the inspiring music of the band marched to the ball ground, where the two ball nines, the "Importers" and the "Manufacturers," again fought for supremacy. The game was remarkable in a great many respects and was umpired by the Hon. John N. Cole, speaker of the Massachusetts house of representatives, who, being a strict parliamentarian, and a forceful character, somewhat like the late "Tom" Reed, ruled the warring parties with a gavel of iron.

POINT SHIRLEY CLUB.

Everybody in New England knows what a fish dinner is. Some know what a good fish dinner is and there are only two places in the United States where they are really good; one is at

Point Shirley. Since all know about fish dinners, there is no use printing the menu.

At the close of the dinner, President Arthur W. Stedman called upon Mr. William J. Kelly, he of the rare good nature and the big voice, to distribute the golf prizes, and "our Kelly" had his hands full for this reason: The present dining room—there will be a better one next year—is a reconstructed bowling alley and no one but "Stentor" himself could have sent his voice to the farthest diners. Kelly managed to get his two-thirds of the way down the room, and the fun he made with his jolly comments on the prizes and prize winners was fully appreciated. The prizes were as follows:

For the best gross score, Wallace G. Page, of the Hood Rubber Co., a handsome briarwood pipe.

Second best gross score, Fred. C. Hood, of the Hood Rubber Co., a fine imported traveling clock.

For the best net score, Wilber E. Farrington, silver match safe.

Second best net score, Fred. H. Jones, of the Tyer Rubber Co., an elegant corkscrew.

President Stedman, who since his illness has taken up golf enthusiastically, and who made the largest score of any of the players, is to receive a special appreciative prize later.

Although no set speeches were planned, the presence of the Hon. John N. Cole, who is one of the cleverest after dinner speakers in Massachusetts, was too good an opportunity to be lost, and he was called to his feet and made a rattling good speech. He first told one or two humorous anecdotes and told them inimitably; then when he had secured the attention of the diners—not an easy task at one of these outings—he spoke briefly and forcefully on the value and effectiveness of commercial clubs just like the New England Rubber Club. His eloquent periods were appreciated and greeted with long continued applause.

Major Davis next spoke briefly and modestly on the regular army and its work and gave every one present a warm invitation to come and see the officers at Fort Andrews whenever they would.

REWARDS OF MERIT.

President Stedman explained that certain rewards of merit were to be presented by the Hon. L. D. Apsley, who was unavoidably absent, and it therefore devolved upon the vice president of the club to explain and present them. Before their presentation, however, he said:

"First, I would like to present the premier reward personally. So that you may understand the significance of this presentation, I would like to call your attention to the record of one of our members in the service of our great government. He not only served his country diligently and well in the halls of Congress, but he has been and is a potent factor in electing the best men for the highest places in the gift of the people. He is now again hard at work using his power and influence in the election of a fitting candidate for the next presidential chair. The committee have thought it a fitting testimonial of their appreciation of his work and of their affection for the man himself, to present him with a suitable decoration, which he is expected to wear until next November."

He then held aloft a three-foot campaign button intended for the Hon. L. D. Apsley, who being absent was represented by Mr. Fred. T. Ryder and who promised faithfully to deliver it to his chief. The button, by the way, was inscribed, "Vote for W. J. Bryan" and to one who has such an international reputation as a loyal aggressive Republican it undoubtedly came as very much of a surprise.

The Vice President then read as follows:

"As a preliminary to the giving of rewards of merit, members of the executive committee, with their usual care and forethought, went over the entire list of members of the New England Rubber Club and discovered a large number, who during the past year, by virtuous living, strict attention to business and abstemious conduct, deserve practical appreciation.

"The president and vice president made very strong bids for prizes, claiming all sorts of good deeds performed, but were put on probation for another year. Of the list of members who have distinguished themselves by their virtuous lives, kind acts, and deeds of valor, a number were selected by lot, as the treasurer refused to furnish funds for more than that number of prizes. They are as follows:

"George Edwin Alden, who distinguished himself as a special policeman in the town of Wellesley, and thereby has been enabled to run his automobile fifty miles per hour and claim he was trying to arrest a transgressor. (A toy police helmet and a huge policeman's club.)

"George S. Andrus, who brought from the middle West one of the largest appendices ever known and in which he had just pride, only to have it taken away from him shortly after his arrival in Hudson—to him is returned the member of which he was so suddenly deprived. (Given a crooked necked squash.)

"It is known to all that Mr. Francis H. Appleton has reclaimed hundreds from the sober paths of Masonry and turned them into Shriners, in which body he is a particular shining light. To him is donated this beautiful golden Shriner's badge, as a token of our appreciation of his unequalled capacity for camel's milk. (A tin scimitar and crescent, about 20 inches across.)

"Charles H. Arnold, financier, rubber importer and farmer, mostly the latter, is hereby presented with a load of hay. The season has been dry—so is Arnold. (A toy cart loaded with excelsior.)

"Charles J. Bailey—he of the 'Won't Slip' tire, hard rubber tooth brushes, daily exerciser for weak and feeble youth, the 'Won't Wear' rubber shoes, and perennial good nature—is presented with a real complexion brush. (A curry comb.)

"The secretary of the club, Mr. Rice, good natured, hustling, and always late at executive committee meetings, is presented with an early morning soother for his infant son so that 'Bobbie' will have no further excuses for tardiness. (A rubber 'infant's delight'.)

"The editor of the rubber department of the *Boot and Shoe Recorder*, Putnam of the three initials, is asked to accept this beautiful fountain pen as a slight token of our affection, and our desire for further and more copious trade notes. We are sure that with this 'O-pen Sesame' he will be a 'World beater.' (Gigantic fountain pen, nearly 4 feet long.)

"That the ex-treasurer, Mr. George P. Whitmore, may be able

to appreciate the contented look upon his own face when smoking his usual 'Porto-Rican,' the following replica of innate good nature, is presented: (A huge smiling plaster face from between the lips of which projected a large cigar.)

"How much the rubber trade have to thank the head of the Revere Rubber Co. for his constant and quiet helpfulness, no man can estimate. He never talks much, but always does the right thing. The committee, therefore, take great pride in presenting him with what they conceive to be one of his great inventions, a lasting boon to humanity, a package of 'Dr. Williams's Pink Pills for Pale People.'

"The president of the Tyer Rubber Co. has made an international reputation for long drives, particularly in golf; that he may make still longer drives, of which the committee is assured, they take pleasure in presenting him with a special importation from England—the 'Hercules' driver, and 'Goliath' golf ball. (An exaggerated driver and monster golf ball.)

"All things and all men are known in degrees. Some are 'first' and some are 'seconds.' Now it is a well known fact that no manufacturer ever makes 'seconds,' but in order to bow to the demands of the customers, 'punched' goods have been created. Some people sell 'firsts' and some sell 'seconds.' 'Seconds' in rubber footwear are known as 'punched' goods. That one of our members has waxed fat and prosperous on the sale of punched goods, with a modicum of punch on the side, is a certified fact. The committee testifies to its appreciation of him and his success, by presenting him with this beautiful punch. (It went to George H. Mayo.)

"Mr. Taft (not our Ben, but the Republican nominee) has said that 'No gentleman weighs over 300 pounds,' which, coming to the ears of one of the club's heavyweights, resulted in much mortifying of the flesh, a great reduction in weight, and the resultant sylph-like figure which you all now have the opportunity to admire. As an earnest of our desire to be sincerely helpful, we lovingly present him herewith a pair of waist reducers. (To B. F. Taft.)

"New brooms sweep clean. To Habich, the newest of the Boston brooms in the crude rubber line, we tender this reward of merit. (A broom.)

"The Vocometer is a machine which registers not alone the speed at which a person talks, but also the number of words passing through the lips during the course of the day's conversation. The holder of the record as measured by this instrument of precision is a member of our club, but it was not until several instruments had been broken and new and stronger parts supplied, that the record was obtained. The record is 250 words per minute, or an aggregate of 150,000 words for a day of ten hours. We have not been able to induce any member of his family to give the record for the rest of the 24 hours, but they do say he is equally gifted in talking in his sleep. We present him with the most recent instrument. (To Wilber E. Farrington.)"

The rewards were received with applause and occasioned very much amusement. All the recipients announced their intention of preserving them as mementos of one of the best outings that the New England Rubber Club has ever had.

At the close of the dinner the feasters took the boat for Boston, arriving about 10 o'clock, after a long day of fun, social intercourse, good cheer, and a renewal of old friendships and the forming of many new ones.

THE Continental Caoutchoucun Guttapercha Compagnie, of Hanover, report a larger turnover during 1907 than in former years. The net profit amounted to 2,942,972 marks [= \$700,429.34], against 2,741,455 marks in 1906. The dividend, 40 per cent., amounts to 2,400,000 marks. A dividend of 15 per cent. is spoken of for the English branch, the Continental Tyre and Rubber Co. (Great Britain) Limited.

The India-Rubber Trade in Great Britain.

By Our Regular Correspondent.

THE general unfinished state of this imposing exhibition called forth considerable comment on the opening day, and there still remained a good deal to be done when I visited it in the middle of June. From the strict point of view of THE INDIA RUBBER WORLD there is little in the exhibits to write about, though it is more than probable that goods connected with the rubber trade escaped my notice owing to the great extent of the exhibition. According to the plan of the buildings and grounds with which I armed myself, Messrs. F. Reddaway & Co., Ltd., Manchester, have a special pavilion in a prominent situation, but I found it to be only in course of erection. Presumably, before these lines are printed, the public will have had an opportunity of inspecting the wares of the firm under more attractive conditions. There is a good exhibit of the Kempshall motor tire, which has already had special mention in these notes. In the Canadian pavilion, the Canadian Rubber Co. of Montreal have a large show case of their manufactures, rubber boots and shoes being prominent.

FRANCO-BRITISH EXHIBITION.

RUBBER PLANTING.

MR. FRANCIS HOLLOWAY, who has had such a wide experience of rubber planting in Ceylon, and has been for some years manager of the Kepitigalla Rubber Estates, Limited, has recently resigned this position and is at present taking an extended holiday in England. Though Mr. Holloway's interests have centered in Ceylon, it is his opinion that as regards soil and configuration of country, the companies in the Straits have a decided advantage over those in Ceylon, though this is offset to some extent by scarcity of labor and lack of transport facilities in many districts on the peninsula. Like other men in his position I have spoken to, he does not consider a continuance of high prices for rubber at all necessary for the well-being of rubber culture; prices such as ruled six months ago returning good profits to sound concerns, while checking the flotation of dubious properties. Mr. Holloway expresses surprise at the comparatively small number of individuals who are shareholders in rubber planting companies, the large capital now involved being in far fewer hands than is the case with other industrial enterprises.

WITH regard to complaints received by rubber manufacturers from purchasers of rubber goods, the rubber covered roller has been rather prominent, and there is a disposition among the makers to put things on a more satisfactory footing. In the majority of cases the roller is put to work under conditions of which the manufacturer knows nothing, and when it is returned to him with a crack or some other defect it is not surprising that he is suspicious as to the treatment it has undergone. These rollers are used in dye works, bleach works, paper mills, and so on, though owing to their price they still find a formidable competitor in the less effective wooden roller. The rubber, which in its nature closely approximates to vulcanite, is affixed to the iron bowl by the rubber manufacturer, though the bowl is nearly always the property of the textile works. Of the firms who make a specialty of covering these bowls the North British Rubber Co. and the Irwell and Eastern Rubber Co. may be mentioned, though of course, the business is not confined to them. In some cases where the bowl has proved unsatisfactory, it is probable that it was either too hard or too soft for its particular use. As the makers have two or three special mixings, the customer would be more likely to have his requirements satisfied if he notified the manufacturer of the purpose for which the roller was required, when a suitable rubber mixing would be used. As it is, the secrecy which is often maintained in this respect frequently acts to the detriment of the maker. It has been

customary for manufacturers and middlemen to give a guarantee for certain time with the roller, but from what I have heard there is a strong disposition to alter this course of procedure as being altogether too much on the side of the purchaser. With regard to this matter I note that the committee of the India-Rubber Manufacturers' Association put forth a recommendation that no manufacturer should take any responsibility in connection with a rubber covered roller which has been turned down after it has left his possession. I know nothing of the causes which prompted this proposal, or as to its ultimate fate, but it is evident that the present position of affairs between buyer and seller is not considered satisfactory by the latter.

I NOTE that symmetrical dichlor-ethylene has recently been patented by Emil Fischer, of Berlin, as a solvent for making rubber solutions. It is said to be a much better solvent than those ordinarily employed and to be free from the objectionable qualities such as inflammability, toxic effects, etc., which characterize benzene, carbon, bisulphide and chloroform. The patentee is an eminent scientist, having long been professor of chemistry at the University of Berlin, and the wording of the patent specification strikes me as more suitable to a scientific memoir than as of practical importance to the rubber trade. It may well be that this new solvent makes a better 3% solution of rubber than chloroform or carbon tetrachloride do, but then what is the commercial application of such a solution? As far as the rubber manufacture is concerned carbon bisulphide and chloroform have no application in making solutions on the large scale, their use being limited to cements for special purposes. Certainly after years of waiting, carbon tetrachloride is now on the market at a price which allows of its employment on the large scale as a solvent, though I am not in possession of any facts as to whether it has given all around satisfaction to those who have tried it on the large scale. So far I have not heard anything as to the price of dichlor-ethylene, but I imagine that it has not yet been prepared on more than a laboratory scale. The hydrocarbon ethylene is capable of producing a wide range of compounds, into the chemistry of which I do not propose to enter here. I note that a maker of uncommon chemical products quotes ethylene dichloride at about 7 pence per ounce, though this may not be the body we are discussing. It seems to me that if the new solvent is all that is claimed for it, it may be utilized instead of carbon bisulphide for certain purposes. Rubber cement made with this objectionable solvent is used on the small scale for certain purposes by large manufacturers who would not object to paying a higher price for a solvent with less associated risk and which would do away with governmental and insurance office inspections. Dichlor-ethylene has a density of 1.269, closely approximating to carbon bisulphide, which is 1.272, while the respective boiling points are 55°C. and 43°C.

A LECTURE delivered recently before the American Society of Mechanical Engineers by Mr. C. Kemble Baldwin will no doubt prove of much interest to the British rubber manufacturer. On more than one occasion I have referred to the apathy displayed by British rubber manufacturers toward the special rubber requirements of mining engineers or companies, this branch of the trade having had special attention paid to it by American firms. The paper referred to above consisted in the main of a eulogism on the Robins belt conveyor, an article which I have frequently heard highly spoken of in mining circles. Mr. Robins, I believe, went through a good deal of experimental work before he produced a belt, the rubber surface of which would successfully withstand the abrasion of the ore which it was destined

**THE BELT
CONVEYOR.**

to convey. The mechanical tests adopted for testing the qualities of different rubber mixings, tests such as exposure to a powerful sand blast and to streams of falling ore, certainly seem to have been conceived in a right spirit as having a direct connection with practice. Although the author gives a summarized account of the manufacture of such belting suitable to the uninformed engineer, he does not give away anything on which the rubber manufacturer might seize as a material guide to successful emulation. There should not, however, be any lions in the path of those who are desirous of competing with the Robins belt. Mr. Baldwin refers to the harm that has been done to the belt industry by the mining men having only a limited knowledge of rubber, but surely blame is equally to be laid at the door of the rubber manufacturer who makes belts for mining purposes of which he is totally ignorant, and who does not take the trouble of dispelling any of this ignorance by consultation with a mining expert. Mr. Baldwin is evidently of much the same mind as myself, as he advises the purchase of belts only from specialists who know the conditions of their use and can be held responsible. I am not quite sure that rubber manufacturers generally will care to give a guarantee for conveyor belts; anyhow, it would require careful consideration because what might last a long time with amorphous material could not be expected to do as well with crystalline rocks or angular ore particles.

AMONG the portraits from his Majesty downward, which are to be seen this year at the Royal Academy exhibition, in London, is a good one bearing the inscription "Presented to John Sykes, Esq., J. P., by shareholders of the English Card Clothing Co., Limited, in recognition of his ten years' chairmanship." That at least is the substance of the inscription, as far as I remember it. Mr. Sykes, though also concerned with cotton spinning, was the moving spirit in connection with the formation of the above company, and is well known in England and America in the advocacy of its interests. A Liberal Unionist in politics, Mr. Sykes is strongly opposed to the tariff reform proposals now so much in evidence, and is always ready to back up his dislike of these proposals by facts and figures from the cotton trade, with the details of which he is so much at home.

PERSONAL.

tion "Presented to John Sykes, Esq.,

AN ENGLISH RUBBER FRAUD.

THE high esteem in which rubber investments are held in Great Britain is indicated by the ease with which frauds of the baldest character have been perpetrated in the name of rubber. Recent proceedings in the London bankruptcy court, in respect of "The Brazilian Rubber Plantations and Estates, Limited," recall the prospectus of that company, issued in February, 1906, in connection with half page newspaper advertisements inviting the public to buy its shares. This prospectus was drawn up in the most approved form, starting with a list of directors headed by

Sir ARTHUR PERCY FITZGERALD AYLMEYER, Bart., Donadea Lodge, Westend, Hants.

The capital was £180,000 [= \$875,970]; there were to be no debentures; the plan was to consolidate four estates in the state of Ceará, Brazil, near the seaport of Fortaleza, on which had been "systematically and scientifically planted" about 400,000 trees of the *Hevia Brasiliensis* and *Manihot Glaziovii* species, said then to be ready for tapping, and estimated to yield 450,000 pounds of rubber the first year, giving a profit of £67,500, besides the returns from coffee and sugar cane, already productive. The area was stated to be "approximately 12,500 acres." All of which was very alluring, though on looking back to the prospectus one may note that nowhere in the document is a statement made in such terms as to be capable of verification.

It transpired in the bankruptcy proceedings—for everything turned out wrong, and there was a general rumpus, and a motion to go into liquidation—that the history of the company developed in these stages:

(1) An option was given for the purchase of certain properties for £15,000, to persons who gave

(2) An option for their purchase at £20,000 to parties who turned it over to

(3) The Estates and Industrial Syndicate, Limited, of London, for the stated purchase price of £50,000 in cash and shares. The final step was the sale, by the syndicate, to

(4) The Brazilian Rubber Plantations and Estates, Limited—formed January 31, 1906—who were to pay £150,000 (where the public supplied the funds).

These transactions followed close one upon the other, and involved the handling of very little money. A witness who was identified with every step in the transactions testified that upon the organization of the final company, when some cash was actually essential, he borrowed £1,500 upon an engagement to pay £1,000 for its use for five or six days.

"Why did you borrow at that high rate?" he was asked in court.

"Because I was a fool." [Renewed laughter.]

The deal was facilitated by favorable reports made by Mr. Knevet Meiter, who testified in the bankruptcy court that he had never seen the Ceará estates, or been within 500 miles of them; he did not know one rubber species from another; he had been paid £50 for writing one report, without knowing what it was for, and had signed another which was handed to him, without his having helped to draw it up. There were mistakes in the reports, he had learned. A letter had mentioned twenty "mules" on the property, which had been read twenty "miles," and translated into 12,500 English acres, whereas the area was found later to be only 2,700 acres. Other witnesses testified that the promises of the prospectus were not realized, with respect either to the rubber trees or the buildings and other improvements on the estate.

As to the baronet on the board, one of the promoters, a Mr. Harbord, testified to paying £50 in cash and £500 in shares to secure his introduction as a director. Sir Arthur Aylmer himself gave evidence. He had never been on a board of directors before and he had no knowledge of rubber estates. He had been present at some of the meetings, but had no clear recollection of what took place. The record concludes:

The Official Receiver.—You simply did as you were asked to do when you attended at the board meetings?

Sir Arthur Aylmer.—Certainly. [Laughter.]

Mr. Harbord (a former witness).—Do you suggest that I deceived you as to Mr. Meiter's report?

Sir Arthur.—Not that I know of. Did you deceive me?

Mr. Harbord.—Certainly not. [Renewed laughter.]

A MEXICAN RUBBER YARN.

IT was at a reunion of old timers, exchanging mining experiences in Mexico, that the reporter for the *Parral Miner* picked up this story which he regarded as the best one told:

"Did I ever tell you of the rubber mine I discovered on the isthmus?" asked the man from the hot country, a tall, slim, tanned man with a cigarette in his mouth. "Well, this mine I discovered by accident. I was riding along an arroyo one day, when I noticed an outcrop of a peculiar looking mineral, which on closer inspection proved to be a vein of pure rubber. I commenced to count my money right away and thought I would just load up some of my pack mules with some of the bonanza, but couldn't figure how to mine the bloomin' thing, then I thought of hitching a team of my mules to it and pulling it out. Well, that was a fair idea, but it wouldn't work; the mules pulled and tugged along 'till they got a good piece of the rubber out of the ground. Then they stopped for a breathing spell; they sort of lost their hold in the rocks and the rubber slammed them back against the rocks and crippled them for life. I still know where this is and am willing to show it to any of you for the price of a drink."

The Anatomical Structure of Guayule.

By Alfred Dominikus, Düsseldorf.

DURING a sojourn in Mexico, Dr. H. Ross, the custodian of the botanical museum at Munich, investigated the phytotomy* of the guayule plant (*Parthenium argentatum*, A. Gray), after having previously used the dried specimens in the botanical collection at Munich for preliminary investigations. The results of the researches made by this learned naturalist, as published in the *Berichte der Deutschen Botanischen Gesellschaft* (Reports of the German Botanical Society), with instructive illustrations, are well deserving of commendation.

The features which appear of foremost interest to us are firstly, the secretion, and, secondly, the cells of the parenchyma (the fundamental cellular tissues), inasmuch as the latter contain the rubber substance.

The secretion vessels may be divided into primary and secondary. The primary resin ducts, which are developed in the immediate vicinity of the points of growth, are formed by schizogenesis—i. e., by fission of the cell rows. They are found in the sprout axis, in the primary bark, and in the pith, and appear to be closely connected with the vascular bundles, as regards their distribution. Their number ranges between 12 and 25. Their cross section is at first approximately circular, but will finally show a perceptible elongation in a tangential direction. In stalks of 2 to 3 millimeters diameter, the average measurements of these ducts are 0.1×0.3 millimeter. They are less numerous in the pith, in which they retain their circular cross section throughout, until they disappear with the withering of the pith. The upper and under sides of the thick nerves or veins of the leaves and leaf stems are each provided with one secretion vessel, while the thin veins or nerves are generally devoid of secretion vessels, or else only one is found on the side of the "wood part." The primary root bark contains a few ducts, whose cross section is usually greatly elongated.

The secondary resin ducts, which are likewise formed by schizogenesis, originate in the layers of the leptome (bast), enclosed by delicate walls. Since they never extend to the parenchyma strips, and are, consequently, enclosed between the same, they are generally smaller in width, but never wider than the adjacent parts of the leptome. Their further development in the inner bark is repeated, separately for each zone or belt and at regular intervals, according to the growth of the plant in thickness. Usually only a small strip of leptome remains wholly intact at each new development, inasmuch as its place is taken up by the secondary secretion ducts. The latter are divided by the newly formed parenchyma strips, their cross section thus, of course, becoming continually shorter (0.04 to 0.05 millimeter), which makes them all the more numerous. The cells which line the resin ducts abound in protoplasm, and they may be discovered in advance, since zinc chlorid-iodine gives a yellowish color to their contents, while the same reagent colors the cells of the surrounding tissues blue, inasmuch as they contain starch.

The secretion from the cells which surround the ducts is in the form of an essential oil which, however, soon becomes resinous and appears in the form of colorless or slightly yellowish drops or aggregations. It is wholly soluble in alcohol, ether, chloroform, toluol, and xylol. Alcannin will color it red, and zinc chlorid-iodine, iodine or a mixture of iodine and sulphuric acid will impart a light yellowish color to the substance.

The substance which supplies the rubber is contained in the pith, in the strips of parenchyma, the wood parenchyma, and the primary bark, and consequently in nearly all the cells of the fundamental tissue. Ross observed the following reactions: One per cent. osmic acid imparts a dark brown or black color to the

contents of the cells in question. Zinc chlorid-iodine colors them light brown, while alcannin makes them intensely red. They are not soluble either in cold or boiling alcohol, in ether or in chloroform, even if they are left for hours immersed in either of the said fluids. They do not disappear from the cells, if treated with concentrated potassium lye, either hot or boiling, not even if they are subsequently boiled in alcohol. A mixture of chloral hydrate (5 parts) and water (2 parts) produces a very considerable change in the contents of the cells, causing a part of the same to disappear. When immersed in a mixture of potassium lye and alcohol, the contents will form spherical masses inside and outside the cells. The beautiful wine red color imparted to the contents of the cells by treatment with a concentrated solution of sugar in sulphuric acid, indicates the presence of albuminous compounds.

The bark contains a considerably larger amount of rubber than the wood itself, the only parts of the latter containing rubber being the parenchyma strips and the only slightly developed wood parenchyma. In consequence of the withering of the pith and of its resin ducts, the rubber obtained from comparatively old wood contains, however, considerably less resin. The wood parts of the root would presumably supply a product entirely free from resin. The leaves contain either only small amounts of substances resembling rubber, or none at all. Only a small amount of rubber is accumulated in comparatively young plants, and the amount increases only very gradually. It would, therefore, not pay to utilize the plants before they are ten years old.

Similar plants investigated by Dr. Ross were the *Parthenium tomentosum*, D. C., and *Parthenium incanum*, H. B. K., the secretion ducts of which, containing resin, resemble those of the *Parthenium argentatum* in both structure and arrangement. The bark and parenchyma strips of the oldest part of a blossoming branch were found to contain a considerable amount of substances whose microchemical reaction was similar to that of the rubber substances contained in the guayule.

THE LARGE PRODUCTION OF GUAYULE.

IN reporting on the condition of the guayule rubber trade, the *Mexican Herald* of recent date said: "At present the prices of guayule have suffered in common with other products, but the factories are working incessantly in the production of the gum, which finds a good market in the United States for such quantities as may be produced in Mexico under the present facilities. There are many guayule factories and all are said to be working up to the limit."

The same article says that practically four-fifths of the whole guayule production goes to the United States and the remainder to Europe, mainly to Germany. It is suggested that the German manufacturers are showing an increased interest in this material, and that should they become more liberal buyers it may have the effect of sending up prices.

The *Herald's* statements are borne out by the statistics of Mexican exports. Whereas the total exports of rubber from that country during the ten years 1889 to 1898 inclusive averaged less than 200,000 pounds a year, they amounted during the fiscal year ended June 30, 1907, to 10,321,247 pounds, and for the first ten months of the last fiscal year to a still larger total—10,106,100 pounds. In other words, the increase has been from about 88 tons a year to the rate of 5500 tons a year. And the increase has been due chiefly to the development of guayule rubber.

The comparative statement which follows, of the imports of Mexican rubber by the United States and Germany for the first

*Vegetable anatomy.

5 months of several years past, is derived from official publications of the two countries:

	America.	Germany.
January-May, 1905	173,345	(a)
January-May, 1906	1,056,595	133,320
January-May, 1907	3,939,838	1,002,320
January-May, 1908	3,894,041	1,085,040
[a—Not reported.]		

The large figures given above would seem to justify the predictions to be heard on every hand that the production of guayule cannot last for many years, since the limits of supply have been pretty well outlined.

INSULATED WIRE SATURATING TANKS.

COMING in daily touch with the conditions and methods adopted by numerous wire manufacturers in the application of wax to the braid of an insulated wire, we have noticed that a great many troubles are traceable directly to the saturating tank.

The heavy first cost of building a saturating tank out of boiler plate, coupled with the danger of explosion due to getting the steam too high a pressure in the steam chest used in this style of construction, forced us to the conclusion that although it was, theoretically, the ideal way to build, in actual practice it had its faults. Then again, when a tank built with steam pipes is located inside the vessel proper, although overcoming explosion trouble, it is next to impossible to remove the sediment which is bound to settle and burn to the tops of the steam pipes. After several months' use, this last acts like an asbestos covering, preventing the heat from freely radiating into the wax, and resulting in the compound taking twice as long in heating up in the morning, so that the first coil saturated in a run frequently shows that the braid has not been thoroughly penetrated.

To keep this tank in condition is both annoying and costly, necessitating the taking apart, removal, and burning of the steam pipes whenever the sediment, burned to the outer surface of the pipes, forms a crust, preventing the heat from freely penetrating the wax. The annoyance of this last is known to the sorrow of many manufacturers, especially those who have made wire for the government under specifications calling for a certain percentage of sea sand to be incorporated into the wax covering. The non removable type of drum around which the wire is wound and then revolved in the molten wax has many objections, the chief of which is that, the drum being entirely immersed, workmen oftentimes get badly burned repairing a wire that has broken in the process.

Having the above in mind, the writer has designed tanks involving details as follows: Some of the ideas, of course, have been incorporated successfully in the construction of tanks for years, but there may be enough that is new here to prove of interest. In designing, we had in view a tank so constructed that it would heat the waxes quickly and evenly, permit of maximum speed in application, be safe in operation, make it possible at all times to get at the wire in case of a break in the hot wax, give results that are uniform under all conditions, permit of easy, effective, and economical scraping to remove any sediment that may form on the tank's sides and bottom, and at the same time be inexpensive to construct and low in cost of maintenance.

A wooden chest is first built—oak preferably, and the sides, ends, and bottom lined with a double thickness of asbestos felt. Around the sides of the chest proper 1½-inch steam pipes are encircled. These are supported on angle iron frames so placed that there is at least an inch of space from the inner surface of the asbestos felt. The arrangement of the pipes is such as to permit the attachment of automatic steam traps to free the pipes of condensation. An inner tank is then built of sheet iron, made lap seamed and riveted so that it is fluid-tight of a size that will set into the space and rest on the steam pipes side and bottom.

The upper edge is flanged sufficient to allow it to be securely fastened to outer wooden one. In doing this the space occupied

by the steam pipes is sealed, making practically a dead air space backing.

Two general types to accomplish these results are possible—i. e., those having but one reel over which the wire passes, and those with two. The special advantage of the single reel is that it occupies little room, as in this method of construction the box proper is generally made only large enough to permit of easy working of the reel in the wax. Treating as it does but one wire at a time, the time lost in repairing a broken wire is reduced to a minimum. The circumference of the single reel being larger than in the double reel construction, there is less liability of injuring the insulation of the braid, caused sometimes by bending a heavy gage wire around the circumference of a small drum.

In the double reel construction the outside dimensions of the tank are usually much longer and narrower than when one reel is used. The cubic space inside this style tank being large, it permits the adding of unmelted wax in cakes as required without affecting the temperature of the molten wax. It being possible to treat as many as a dozen wires or more at a time in tanks of this construction, it is possible to give the wire a larger time in the wax than in the single reel construction, and still have the daily output more than by other arrangement. This insures thorough saturating, a very important feature when the life of both braid and rubber insulation is considered.

It is readily seen by this rough description that tanks so constructed are very inexpensive, and that practically all the heat generated in the steam pipes is imparted to the wax. Owing to the dead air space obtained by using the asbestos felt, and the fact that the sheet iron is of thin gage, the heat is not retarded as it is in passing through the thick boiler plate necessary in the steam chest construction. The sides of the tank being smooth, it is an easy matter to scrape and clean. The face of the reel should be slatted to allow free circulation of melted wax around the wire during treatment. The reel itself should revolve on a shaft which is fastened at either end to two flat iron supports, which last are suspended from either side of the tank. One of these supports should have attached a handle of sufficient length and strength to permit of turning the reel upside down out of the wax to enable getting at the wire to repair in case of break.

W. C. COLEMAN.

PROGRESS OF WIRELESS TELEGRAPHY.

MARCONI'S Wireless Telegraph Co., Limited, during June offered for public subscription £250,000 in additional shares, the proceeds to be used in establishing a service between Poldhu and the United States, to supplement their present transatlantic service between Galway and Canada. The authorized capital of the company is £750,000 [= \$3,649,875], and the previous issue of shares amounted to £394,190. The company states that it has large holdings in several affiliated companies, besides owning over 400 wireless telegraphy patents and a factory for producing the apparatus used in the Marconi wireless system, all of which constitute a source of revenue in addition to that of the direct operations of the company first named. Concerning the affiliated Marconi International Marine Communication Co., Limited, the following figures are given, in respect of its maritime business: Number of ships (other than warships) using the Marconi system, 118; number of words transmitted in 1907, 1,834,540; net receipts from this source, £37,506 6s. 4d.

THE purchase from Bolivia of the Acre district appears to have been a profitable piece of business for Brazil. The indemnity paid, exclusive of the cost of the Madeira-Mamoré railway, now building, was £2,000,000 (£2,050,000, including bankers' commissions). Up to the end of 1907 more than this much was received by the Brazilian government in duties charged on the export of rubber from the Acre district.

New Rubber Goods in the Market.

A MOTOR DRIVEN ERASER.

IN a former issue of THE INDIA RUBBER WORLD (September 1, 1905—page 412) space was given to an improvised mechanical device for operating a rubber eraser in the case of work—such as engineering plans—on which a great deal of erasing is to be done. As indicating that a real want exists in engineering offices for something of this kind, we are able now to record that a motor driven eraser, which is here illustrated, has been placed upon the market. Draftsmen know that erasing with a very light fast motion will remove lines without a scratch, but all of them have not the patience to do this, and the result is a



COATES MOTOR DRIVEN ERASER.

marred drawing or tracing. Often it is necessary to make many corrections in a drawing, and besides being very tedious, much time is consumed. By the use of a motor connected to the eraser by a flexible shaft, the corrections can be made quickly and neatly. The motor usually is placed near the edge of the table, but may be moved from one table to another. The eraser shown in the illustration is connected to a small Westinghouse motor, fitted with Coates unit link flexible shaft. The motors are wound for either direct or alternating current. [Coates Clipper Manufacturing Co., Worcester, Massachusetts.]

THE GLASEPTIC NEBULIZER.

THE Glaseptic nebulizer, with the exception of the rubber tube and bulb, is constructed entirely of glass, and therefore can be used with every description of liquid in the treatment of nasal affections or of the tharynx and larynx—with solutions of any density, whether ethereal, spirituous, oily, or aqueous; with concentrated saline solutions or with viscid preparations. The use of glass parts is intended to obviate possibility of oxidation or corrosion, and to render it easily cleaned. Of course



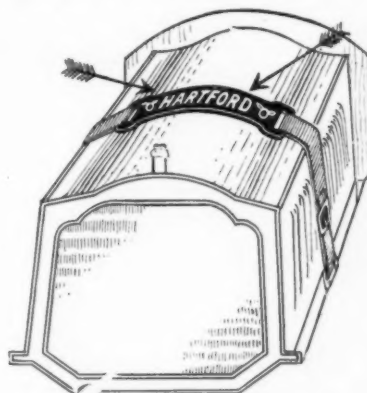
GLASEPTIC NEBULIZER.

the rubber bulb is one of the essential features of the device, for which reason space is given it in these pages. The cut shows to the left a special attachment in the shape of a throat piece. [Parke, Davis & Co., Detroit, Michigan.]

HARTFORD HOOD ANTI-RATTLER.

THE average automobile owner has noticed the rattling of the hood on his car, and while it is but a little thing and does not reflect on the construction or durability of the machine, it is nevertheless annoying to the driver to constantly hear it. To obviate this many owners have placed a strap across the top of the hood, fastening it as tightly as possible to prevent shaking.

The Hartford Hood Anti-Rattler goes a bit further. It is a strip of flexible rubber about a foot in length, 2 inches in width and $\frac{1}{4}$ inch thick, slotted at either end. When placed over the center of the hood, the ends of the leather straps are drawn through the openings in the rubber strip at either end, and then



HARTFORD HOOD ANTI-RATTLER.

buckled down firmly on the side of the hood. This not only holds the hood in place positively, but, on account of the elasticity of the rubber, takes up whatever vibration there may be and also deadens the noise. This article is neatly lettered with the word "Hartford" and the winged wheel trade mark of the company. It is made of good rubber dead black in color, and will not bloom with age. Patents have been applied for. [Hartford Rubber Works Co., Hartford, Connecticut.]

COVER'S RUBBER GOGGLE.

THIS article is referred to as being protected by patents which cover the whole rubber goggle, comprising the constrictively held



RUBBER GOGGLE FOR MOTORISTS.

lenses, the elastic tubes in the outer ends of which the lenses are supported, the flesh pads about the eyes of the inner ends of the tubes, the reinforcement at the ends of the flesh pads and between the eye tubes, and other features. These goggles are all rubber, except the glasses, and are adjustable to any face. They are dustproof, rainproof, sanitary, and neat in appearance. The most recent patent relating to this article was issued June 16, 1908. [H. S. Cover, South Bend, Indiana.]

THE "GRIP FAST" SHIRT WAIST BELT.

ONE of the smaller articles in the line of notions in which the use of rubber is involved, but one which has come into wide use, and with great comfort and convenience to the wearer, is the ladies shirt-waist belt illustrated in the margin. The belt is made of lisle web, adjustable in length. A distinctive feature of the article is the corrugated rubber strip in the back, which is designed to hold the shirt waist in place—and does it. The article is patented. [David Basch, No. 199 Wooster street, New York.]



"GRIP FAST" BELT.

"ELITE" SCREW CAP ICE BAG.

THE special features of this article lie in its durability and the attractiveness of the cloth inserted maroon colored stock; in the loops by which the bag may be fastened securely in place; and last, but most important, in the "unlosable washer" which completely covers the metal screw cap, fitting snugly over it, and consequently is always in place. In the 9 inch size the list price is \$18 per dozen. A patent has been applied for. [Whitall Tatum Co., No. 46 Barclay street, New York.]



PATENT APPLIED FOR
"ELITE" SCREW CAP ICE BAG.

STANDARD EXPANSION BUCKET.

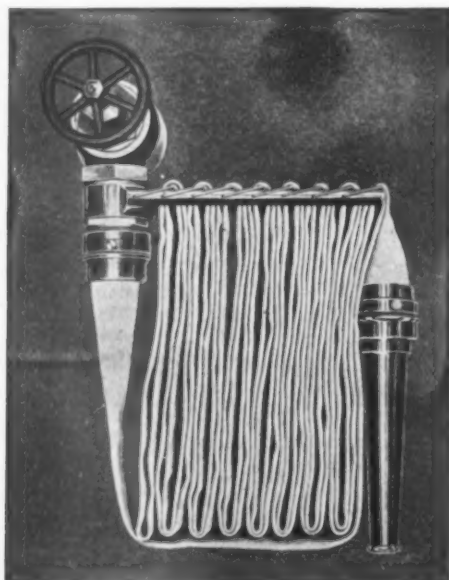
IN connection with "Cleveland" pump chain is manufactured a line of rubber pump buckets. The latest development in this line is the Standard Expansion Bucket, on which a patent has been allowed and which is shown in the illustration. This bucket has been designed to embody all the features shown in pump buckets generally, while more simple than others, and costing no more. It consists of only two pieces—the link and the rubber. The bulk of the rubber at wearing point 7-16 inch thick. Reference is made to the large, strong coarse thread on both rubber and link, making expansion quick and sure. The buckets can be expanded at any time without removing them from the chain. This bucket is furnished in all standard sizes. [The Cleveland Galvanizing Works Co., Cleveland, Ohio.]



STANDARD
EXPANSION
BUCKET.

THE "IDEAL" SWINGING HOSE RACK.

THE latest swinging hose rack to be brought out is that illustrated herewith, and which is described by the manufacturer



THE "IDEAL" SWINGING HOSE RACK.

as the "Ideal." This rack may be attached to the wall or stand-pipe as well as to the valve. It is made in polished brass or nickel plated brass, and has a handsome appearance. It is simple

in construction and operation. Its use permits of the water being turned on before removing the hose. This rack is designed to carry linen hose only. Patents are pending. [The H. J. M. Howard Manufacturing Co., Washington, D. C.]

COX TIRE REPAIR KIT.

THE Cox specialties for use in tire repair work are supplied in a kit, the appearance of which is suggested by the illustration. Each kit is supposed to hold enough solution for the repair of 40 punctures. When a repair is to be made, the idea is to remove all dirt from the tire with gasoline; then roughen the surface with sandpaper or file, and apply a coat of cement, allowing it to dry ten minutes, after which a second coat is applied and allowed to dry. The whole is moistened with acid and clamped into a Cox "vulcanizer," so constructed with the help of a felt cushion, as to conform to the shape of the patch. The repair is due to chemical action alone, and no heat is required. [David H. Cox, Rahway, New Jersey.]



COX TIRE REPAIR KIT.

SPONGE RUBBER TRUSS PADS.

A NEW feature in the construction of truss pads is in making them of sponge rubber. Pads of this character are soft and comfortable, while yet firm and holding without slipping. The



AKRON TRUSS, WITH SPONGE RUBBER PAD.

firm introducing this new article are manufacturers of surgical trusses of many patterns, but the sponge rubber pad, as shown in the illustration, is the same as applied to all. [The Akron Truss Co., Akron, Ohio.]

WHERE TRADE CATALOGUES ARE NOT GIVEN AWAY.

IN America, where trade lists are printed in such profusion and distributed freely, no matter how elaborate or costly, it is doubtful whether many copies would be distributed by a house undertaking to make a charge for catalogues of its goods. Such is the custom, however, in some other countries. The first catalogue of a new firm in the rubber trade in Switzerland, for example, is priced on its title page at 4 francs, besides which the copies are numbered serially, and a record kept of the recipient of each copy distributed. Furthermore, each copy bears a label with the name of the firm receiving it and a statement that the book is for the exclusive use of that firm. Some of the German houses issue catalogues priced as high as 10 marks, though the custom of charging for the catalogues is not general in that country. It used to be the custom in Cuba, whether it is now or not, for firms issuing trade lists to lend them to parties expressing an interest in their business, with the idea that after use had been made of them they should be returned for other possible customers. The real paradise of trade catalogue printers is in the United States.

Recent Patents Relating to Rubber.

UNITED STATES OF AMERICA.

ISSUED JUNE 2, 1908.

NO. 889,263. Pneumatic tire for vehicle wheels. R. P. Scott, Cadiz, Ohio.

889,334. Armor for tires. [Chain armor formed of a plurality of rows of links.] F. E. Remark, Akron, Ohio.

889,374. Overshoe fastener. [An eye mounted on an overshoe engages a hook secured to the shoe.] J. Hopson, Ogden, Utah.

889,376. Hollow rubber article having seams. [Method of forming hot water bottle.] I. F. Kepler, Akron, Ohio, assignor to The B. F. Goodrich Co.

889,419. Support for lawn hose. L. E. Whitney, Carthage, Mo.

889,709. Golf ball. [An expanded cone of thin elastic material is filled with an incompressible liquid.] F. H. Mingay, Bernfield, Bridge of Weir, Scotland.

889,726. Hose clamp. H. B. Sherman, Battle Creek, Mich.

889,756. Cushion. J. S. Bukacek, Riverside, Ala.

889,807. Packing. [Compressed and vulcanized mixture of fibrous asbestos with sulphur, litharge, and rubber, and provided with a protective coating of a suitable electrolytically deposited metal.] C. H. Reynolds, Rochester, N. Y.

889,810. Medicating and massaging appliance. H. Robinson, Waco, Tex.

ISSUED JUNE 9, 1908.

889,927. Automobile tire casing. [With leather strip cemented to tread and vulcanized with it.] C. L. Higgins, Montreal, Quebec.

889,939. Hose making machine. J. S. H. Lovett, Trenton, N. J., assignor of one-third each to T. P. Payne, Newark, N. J., and W. W. Near, Toronto, Canada.

889,940. Feeding mechanism for hose making machine. *Same*.

889,972. Distributing nozzle [for garden hose]. A. Schmidt, Indianapolis, Ind.

890,216. Art of purifying rubber. [Treatment with a compound solvent comprising acetone and methyl acetate.] H. O. Chute, Cleveland, Ohio.

890,217. Art of purifying rubber. [The process producing the compound solvent mentioned in the preceding patent.] *Same*.

890,223. Spring wheel. B. F. Dffenbaugh, Creston, Iowa.

890,362. Tire protecting device. L. H. Kinnard, assignor of one-half to R. S. Chamberlin, both of Harrisburg, Pa.

890,376. Milking machine [with rubber teat cups]. A. Ridd, Waipuku, New Zealand.

890,414. Hose clamp. W. Y. De Worth, Bordentown, N. J.

890,520. Rod packing. J. P. Leander, Chicago.

Trade Mark.

34,170. The Siemon Hard Rubber Corporation, Bridgeport, Conn. Three disks, and a "heart," "spade," and "club" in combination. For poker chips.

ISSUED JUNE 16, 1908.

890,624. Vehicle tire. [Solid rubber.] E. L. Easlick, Akron, Ohio, assignor to The Goodyear Tire and Rubber Co.

890,652. Hose rack. [For fire hose, indoors.] H. J. M. Howard, Washington, D. C.

890,653. Means for supporting flexible hose. [For fire hose, indoors.] *Same*.

890,671. Pneumatic wheel for vehicles. B. J. Macauley, Eastbourne, and J. A. F. Hall, Hampden Park, near Eastbourne, England.

890,681. Bed pan. M. Moore, Marble Rock, Iowa.

890,785. Protecting device for tires. G. D. Moore, Worcester, Mass.

890,885. Device for turning nursing nipples. E. L. Stuart and S. A. Conine, New Hamburg, N. Y.

890,899. Elastic means. L. A. Garchey, Paris, France.

890,904. Weather strip. P. L. Hedberg, assignor to Chicago Metal Weather Strip Co., all of Chicago.

890,920. Return ball. J. P. Newbold, Cape May, N. J.

890,975. Breast pump. J. S. Gilbert, assignor of one-fourth to M. N. Munly, both of Portland, Ore.

890,990. Syringe. [Vaginal.] A. E. Macdonald, San Francisco.

891,030. Armor for rubber tires. V. L. Békefi, Cleveland, Ohio.

891,109. Bottle stopper. E. H. Speece, Beatty, Nev.

891,172. Wheel rim. E. Hopkinson, East Orange, N. J., and T. Midgley, Hartford, Conn.; said Hopkinson assignor to The Hartford Rubber Works Co.

891,181. Inflatable bandage. P. Mitchell, Rock Island, Ill.

Trade Marks.

27,955. Hanneversche Gummi-Kamm Compagnie, A.-G., Hanover-Limmer, Germany. The word *Excelsior*, on either side of which is a figure holding a tray of combs. For rubber combs.

32,679. Standard Rubber Mfg. and Supply Co., Trenton, N. J. The word *Savory*, for printers' blankets.

32,700. The Omo Mfg. Co., Middletown, Conn. The word *Chloris*. For dress shields.

34,495. New Orleans Roofing and Metal Works, New Orleans. The word *Nola*. For rubber roofing.

ISSUED JUNE 23, 1908.

891,384. Rubber foothold. E. A. Strang, Cleveland, Ohio.

891,468. Pneumatic tire for wheels of vehicles. [Relates to the method of retaining in the rim.] A. Michelin, Paris, France.

891,506. Cow milking machine. W. W. Sprague, Monmouth, Me.

891,533. Pneumatic knee pad. P. P. Gibbs, Gordon, Tex.

891,557. Ring of removable mail covers for pneumatic tires. S. A. Marazani, Palermo, Italy.

891,578. Tire armor. H. G. Wheeler, Canandaigua, N. Y.

891,652. Weather strip. O. T. Akre, Wallingford, Iowa.

891,655. Vehicle wheel. T. A. Baker, Renick, Mo.

891,687. Vulcanizer. W. D. Gratama, Rijswijk, Netherlands.

Trade Mark.

34,289. Pennsylvania Rubber Co., Jeannette, Pa. The word *Paruco*. For rubber rings and gaskets for tops of jars.

ISSUED JUNE 30, 1908.

891,841. Automobile wheel. [With pneumatic tire.] K. Kohlmann and G. Andree, Dane, Wis.

891,866. Process of preparing india-rubber for vulcanization. [Consists in boiling the rubber with amyl alcohol with the simultaneous addition of water, thereby keeping down the temperature below the melting point of the rubber.] H. Scholz, assignor to B. Gratz, both of Berlin, Germany.

892,072. Horse pad hook. E. L. McClain, assignor to The American Pad and Textile Co., all of Greenfield, Ohio.

892,075. Tire. A. O'Brien, assignor of one-half to F. P. McGinn, both of Chicago.

892,171. Rubber shoe. C. E. Mapes, New York city.

892,197. Hose clamp. H. C. Umpleby and M. J. Butler, Angelica, N. Y.

892,209. Vulcanizer. W. H. Barnard, Merchantville, N. J.

892,291. Vehicle wheel. J. McIntyre, assignor to J. E. McIntyre, both of Boston.

892,294. Vehicle wheel. J. Nicholson, Boston.

892,323. Wheel. [A wheel within a wheel, with an intermediate elastic tire.] E. Stancliff, New York city.

Trade Marks.

33,436. The Corbett-Taylor Co., Trenton, N. J. The word *Cortay* within a diamond shaped border. For rubber belting, packing, and hose.

34,234. Roberts, Johnson & Rand Shoe Co., St. Louis. The words *Stronger Than the Law*. For rubber footwear.

34,815. Charles Niedner's Sons Co., Malden, Mass. The word *Senate*. For linen fire hose.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1907.

*Denotes Patents for American Inventions.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, MAY 27, 1908.]

2,728 2,728 (1907). Machine for attaching rubber tread strips to pneumatic tire covers. New Eccles Rubber Works and J. George, Eccles, Lancashire.

2,753 (1907). Detachable rim for pneumatic tires. P. E. Doolittle, Toronto, Canada.

2,833 (1907). Sleeve of fabric for tire tubes, life belts, and air cushions. D. W. Yates and two others, Radcliffe.

*2,875 (1907). Solid rubber tires formed with radial recesses extending inwards from the tread. W. W. Byam, Chicago, Illinois.

2,887 (1907). Spring wheel with pneumatic hub. A. F. Stevenson, St. Helens Cable and Rubber Co., Warrington.

2,950 (1907). Vehicle wheel with india-rubber blocks placed between inner and outer rims. M. Cosset, Paris, France.

2,958 (1907). Road gripping chains for pneumatic tires. F. C. Woodford, Harlesden.

2,995 (1907). Device for detecting punctures in pneumatic tires. S. T. Oldridge, London.

3,003 (1907). Detachable rim for pneumatic tires. J. Buchan, Tottenham.

3,080 (1907). Small additional wheel to prevent side slip in motor vehicles. H. H. C. Sinclair, London.

[ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JUNE 3, 1908.]

3,102 (1907). Tire tread built up of alternate rubber and leather strips. R. L. Benwell, Leamington.

3,251 (1907). Mandrel or mold for vulcanizing repair tubes or covers. [Described in THE INDIA RUBBER WORLD, July 1, 1908—page 335.] W. Frost and H. Harvey Frost & Co., London.

3,258 (1907). Non slipping cover for pneumatic tires, involving sheet metal rings. P. Schmidt and I. Schwarz, Berlin.

3,262 (1907). Solid rubber tires formed with deep transverse non-radial grooves. E. L. H. Cosby, London.

3,292 (1907). Tire inflating pump. A. Linard, Victoria, Australia.

*3,391 (1907). Sponge rubber pad for surgical trusses. [Described on another page of this journal.] E. R. Bathrick, Akron, Ohio.

3,405 (1907). Solid rubber tire having a tread provided with conical holes. J. Morris, London.

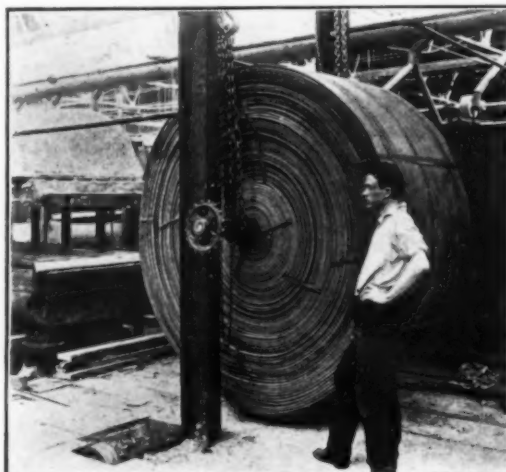
3,480 (1907). India-rubber substitute. [In the production of an elastic composition by the action of formaldehyde upon gelatin, a primary aromatic amine, such as aniline, in emulsion with the gelatin solution, is employed. An oil, such as castor oil, terpineol, or caoutchouc oil, may be fixed with the aniline, while the formaldehyde may be fixed with glycerine before admixture with the other bodies.] L. Stange, Aachen, Germany.

- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JUNE 11, 1908.]
- *3,780 (1907). Safety valve for a dental vulcanizer. J. C. Pogue, Findlay, Illinois.
- *3,831 (1907). Fabric for pneumatic tires. [The cover comprises an outer rubber layer, and an inner fabric structure, formed of a number of superposed weft threads, united by warp threads, which interlace from side to side of the fabric. The material used is Japanese or other silk, or silk combined with Sea Island cotton, etc.] C. Ziegler, Chicago, Illinois.
- 3,855 (1907). Spring wheel, the tread comprising blocks of wood or compressed pulp resting upon rubber sections. E. Allan, Penarth.
- 3,867 (1907). Spring wheel having a tread in rigid segments supported by pieces of rubber with elastic cushions arranged to break joint between the segments. G. Moore, Aston, Birmingham.
- 4,003 (1907). Detachable rim for tires. M. Maunier, Toulon, France.
- 4,052 (1907). Detachable rim for tires. H. Pataud, Paris, France.
- 4,069 (1907). Securing non skid studs to the tread of pneumatic tires. L. Callender, Matlock.
- 4,084 (1907). Spring wheel, comprising inner and outer felloes separated by an elastic cushion, with an outer solid rubber tire. J. D. Macarthur, Ayr, Scotland.
- 4,221 (1907). Device to facilitate the putting on of thin rubber gloves such as surgeons use. C. A. Hoefficke and C. A. Hoefficke, Ltd., London.
- 4,268 (1907). Method of reclaiming rubber. P. C. H. West, London.
- 4,272 (1907). Hose coupling. P. R. J. Willis, Kingston-on-Thames. (J. Pehrson, Willowbrook, Canada.)
- 4,267 (1907). Packing. A. R. Trist, St. Albans.
- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JUNE 17, 1908.]
- 4,337 (1907). Hoof pad. W. Cross, London, and H. G. Teagle, Harrow.
- 4,416 (1907). Tire formed of sectional blocks mounted between dovetail ribs on the rim. E. W. Coleman, Twickenham.
- 4,501 (1907). Wheel rendered resilient by an arrangement of concentric spring bands and having a rubber tread. T. G. Salisbury, Paris, France.
- 4,510 (1907). Machine for masticating crude rubber. L. Norzagaray, London.
- 4,511 (1907). Tool for tapping rubber trees. L. Norzagaray, London.
- 4,565 (1907). Pneumatic tire with double ended air tube. J. Stuart, Glasgow.
- 4,646 (1907). Design for a poncho cape for use in motoring and the like. B. F. Wood, Glasgow.
- 4,680 (1907). Elastic tire in which the inner layers are of harder material than the tread surface. A. T. Collier, St. Albans, and Refilco Tyre Co., London.
- 4,682 (1907). Resilient shock absorbing washer for bases of machinery in general. H. Lee, London.
- *4,699 (1907). Vehicle having curved spring spokes held somewhat in compression by a metal band forming a seating for a rubber tire. A. A. Daugherty, New York.
- 4,717 (1907). Method of purifying crude rubber by treating it with solvent for the resin. A. G. Blexon, London. Raffineries Réunies de Caoutchouc, S. A., Antwerp.)
- *4,741 (1907). Tubular spring tire with studded leather tread band. R. Hadden, London. (J. K. Parker, Long Beach, California.)
- 4,746 (1907). Wheel with tread of end grain wooden blocks carried in metal frames supported upon an elastic bed. J. E. Hill, Lye, Worcestershire.
- 4,872 (1907). Layer of rubber between the inner and outer soles of boots to impart spring or elasticity. J. A. Smith, Ansey.
- [ABSTRACTED IN THE ILLUSTRATED OFFICIAL JOURNAL, JUNE 24, 1908.]
- 4,917 (1907). Pneumatic tire. [The casing encloses two or more air tubes each surrounded by a tubular inextensible sheath of fabric.] O. M. Schütte, Bad Kosen, Germany.
- 4,928 (1907). Pressure gauge and inflating valve for tires. J. H. Hooley, Davy Hulme, Manchester.
- 4,929 (1907). Means of securing twin solid rubber tires. Société Anonyme des Etablissements Hutchinson, Paris, France.
- 4,952 (1907). Securing plate for heel pads. W. Mawlam, Stockton-on-Tees.
- 4,964 (1907). Solid rubber tire with recesses in which blocks of wood or metal are held by cross pins. A. W. Tidbury, London.
- 5,011 (1907). Rubber stamp, preferably combined with an inking pad, employed in a method of identification. E. Michaud and two others, Quebec, Canada.
- 5,188 (1907). Detachable rim for tires. R. L. Hannemann, Gelnhausen, Germany.
- 5,198 (1907). Revolving heel pad. T. Smith and W. G. S. Whyatt, London.
- 5,218 (1907). Chain device to prevent side slip of cycles and motors. H. Harris, London.
- 5,336 (1907). Valve for sectional pneumatic tires. V. F. V. Charavet, Paris, France.
- 5,374 (1907). Solid tire and special rim flanges for retaining the same. N. Macheth, St. Anne-on-the-Sea, and W. Norris, Blackpool.
- 5,476 (1907). Non skid device applicable to tire covers and boot soles. J. Gregson, Blackburn.
- 5,531 (1907). Puncture preventing band for tires arranged between the cover and air tube. J. J. Darnell, Upper Norwood.
- 5,566 (1907). Detachable tire carrying rim. W. E. Cule, Treforest, Pontypridd, and two others.
- 384,234 (Jan. 29). P. Garnand. Multiple pneumatic tire.
- 384,301 (Nov. 23). H. J. Bastide. Rim for pneumatic tire.
- 384,340 (Jan. 31). P. Rousillon. Soft bands for pneumatic tires.
- 384,341 (Jan. 31). E. Decauville. Apparatus for repairing tire tubes.
- 384,383 (Nov. 26). Puncture Free Pneumatic Tyre Co., Ltd. Device for automatic closing of punctures in tire tubes.
- 384,408 (Nov. 26). Société "La Palladium Antiderapant Imperforable." Tire protector.
- 384,435 (Nov. 27). C. G. Lotave. Pneumatic tire.
- 384,330 (Nov. 27). J. Lemoine. Rubber armor for pneumatic tires.
- 384,594 (Dec. 2). F. F. Ruau. Elastic tire.
- 384,610 (Dec. 3). A. Soly. Joining the ends of non continuous tire inner tubes.
- 384,705 (Dec. 5). Del Hoyo y Diez. Detachable rubber pad for horses and tool for placing it in the hoofs and removing it from the same.
- 384,546 (Nov. 30). G. Wunderlich. Rubber reclaiming process.
- 384,632 (Dec. 3). W. D. Gratama. Vulcanization of india-rubber and gutta-percha.
- 384,779 (Nov. 30). L. Lesiene. Pneumatic tire protector.
- 384,839 (Dec. 9). Bragg and Brown. Pneumatic tire cover.
- 384,885 (Dec. 10). O. Eisle. Pneumatic tire.
- 385,019 (Feb. 22). B. Sauton. Process of making an elastic material analogous to caoutchouc.
- 385,167 (Dec. 18). Walker. Pneumatic tire protector.
- 385,190 (Dec. 19). F. Boutroun and de Bougada-Vila. Process and apparatus for extracting caoutchouc.
- 385,216 (March 4). H. Harmel and C. Toussaint. Leather and rubber pneumatic tire protector.
- 385,303 (Dec. 9). O. Hansson. Vulcanization of objects in wood, papier maché, etc., enveloped in rubber.
- 385,459 (Dec. 21). H. Libs. Manufacture of a new elastic substance.
- 385,474 (Dec. 21). Ulmann freres. Imitation of wood by covering wooden objects with sheets of rubber.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Robert, Ingenieur-Conseil, 16 avenue de Villiers, Paris, at 50 cents each, postpaid.]

THE postmaster general of Australia lately invited bids for construction and laying of two new cables between the island of Tasmania and the mainland, the bids to close on April 14. The specifications call for a total of 390 nautical miles of 7 conductor cable, with gutta-percha insulation—the total work to be completed not later than April 1, 1909.

THE report of Sir Eldon Gorst, agent and consul general of Great Britain, on the finances, administration, and condition of Egypt and the Soudan for 1907, refers to rubber production, and notes with satisfaction "that the question of starting plantations in various localities on the upper Nile is under consideration."



A LARGE RUBBER BELT.

[Made by the Republic Rubber Co., Youngstown, Ohio, for Frazer & Chalmers, London, for shipment to a mine in South Africa. Eight ply, 850 feet long, 42 inches wide, with 1/4 inch rubber cover on one side; weight, 14,500 pounds.]

THE FRENCH REPUBLIC.

Patents Issued (with Dates of Application).

- 384,231 (Nov. 22, 1907). Levenze. Pneumatic tire cover.
- 384,030 (Jan. 23). Le Roy. Cold vulcanization.
- 384,108 (Jan. 25). A. Nodon. Process of extracting natural gums.
- 384,145 (Nov. 18). Cornalt and The Union Rubber and Chemical Co., Ltd. Vulcanization by electric heating.

The Late Charles H. Dale.

IN the passing away of Charles H. Dale the American rubber trade has lost one of its most notable leaders of recent years, and thousands will mourn the loss of a friend. Mr. Dale's death followed an illness of only a week, and occurred on July 18 at his summer home at Larchmont, near New York.

Mr. Dale was born in New York city in 1852 and had entered his fifty-seventh year. He was the son of a physician and attended the public schools until he was 13, when, with the idea of becoming a lawyer, he entered upon a course of study intended to fit him for this. After being graduated from the Cheshire Academy, at Cheshire, Connecticut, he caught the "railroad fever" and insisted that it was better for him to become a good railroad man than possibly an indifferent lawyer. His father was finally influenced by his persuasions, and young Dale was introduced to the notice of one of the most successful railway managers at that time. To determine how strongly the youth was resolved to engage in a railroad career, the manager in question had him put to work as a brakeman, where during the first day—or night, rather—he had an opportunity to display qualities which led to his being given every opportunity to climb upward as fast as he could. In time he became a conductor, and as such had charge of the first passenger train out of New York over the West Shore railroad, now a part of the New York Central system. He had become superintendent of transportation when his interest happened to be attracted to the subject of air brake hose.

It happened that Mr. Dale became acquainted with the management of the Peerless Rubber Manufacturing Co., with a factory at New Durham, New Jersey, and the first result was his connection with that company in the capacity of selling their goods to railway companies—a line in which he was exceedingly successful.

After having been general sales agent of the Peerless company for about five years Mr. Dale was made general manager on May 1, 1894, and a year later became president and general manager. In the autumn of 1895 the capital of the company was increased from \$75,000 to \$300,000, and on April 1, 1898, when the company was incorporated under the laws of New York, there was a further increase to \$1,000,000, fully paid. The new shares were subscribed to an important extent by persons in interest with the Westinghouse Air Brake Co. (Pittsburgh), and the company's production of railway air brake hose became very large. The company devoted attention likewise to several other

special lines of production, with such results as to place it in the foremost rank of mechanical goods factories in respect of profits. Mr. Dale, at the time of his death, had been connected with the Peerless company for nearly twenty years, and identified with its growth from a small business, in connection with all of which he became familiar with practically every feature of the business—whether manufacturing, selling, or financial management.

Mr. Dale was one of the incorporators, at the beginning of 1899, of the Rubber Goods Manufacturing Co., under the laws of

New Jersey. The purpose of this company was to consolidate to an important extent the mechanical goods industry in the United States, and the Peerless Rubber Manufacturing Co. was among the companies embraced in the new organization. The several companies preserved their corporate identity, however, Mr. Dale retaining the office of president of the Peerless company and directing its policy and operations as before. He was a director of the Rubber Goods company from the beginning, and gradually joined the boards of several of the subsidiary companies. In time he assumed the presidency of all the subsidiary companies making mechanical goods, and their active management.

At the annual meeting of the Rubber Goods company in 1903 he was elected president of that corporation, at a salary much larger probably than has ever been paid to the head of any other rubber company. The office of chief executive of the company had not been filled before by a practical rubber man, and the holding of the position by a man having this advantage, in addition to being a capable organizer and



THE LATE CHARLES H. DALE.

[Photo by Davis & Eickemeyer.]

administrator, was seen in the speedy improvement of the condition of the company and its constant and substantial growth. The extent of the company's business may be implied from a few figures. The original issue of capital shares was \$18,035,600, which was increased until the figure now stands at \$27,293,100. Sales during the last business year amounted to \$21,473,823.28. During nine years the amount disbursed in dividends has been \$9,491,993.92. Three years ago the Rubber Goods Manufacturing Co. was merged with the United States Rubber Co., but without losing its identity as a corporation, and Mr. Dale retained the presidency, besides becoming a director and member of the executive committee of the United States company. Following this development Mr. Dale issued a notice to the various managers under his charge which was characteristic: "The merger - - - will in no way affect the management of your companies or any

individual in them, other than to give them greater opportunities. The management will be continued under my administration in future as in the past."

An idea of the amount of detail involved in Mr. Dale's work is indicated by the fact that in addition to the positions mentioned, he was president of the New York Belting and Packing Co., Limited, and the Mechanical Rubber Co., the latter corporation comprising a half dozen concerns which formed the nucleus of the Rubber Goods Manufacturing Co. Nor were his official positions merely nominal. He instigated and planned in the larger sense the building of the great Morgan & Wright rubber factory at Detroit, Michigan; he superintended the merger with the Rubber Goods company of the tire factories acquired from the American Bicycle Co., finally reorganizing all of the latter, including the Hartford Rubber Works Co.

In addition to the business connections already noted, Mr. Dale was a director in two New York banks—the Merchants' Exchange National and the Century Bank. He was a member of the Union League Club, New York Yacht Club, Larchmont Yacht Club, the Automobile Club of America and the New York Athletic Club. Mr. Dale was prominent among New York yachtsmen and his yacht, *The Whim*, attracted no little attention. He was also a member of the Masonic fraternity. His town house was at No. 131 West One Hundred and Nineteenth street. Funeral services at the Larchmont residence on the afternoon of July 20 were attended by the executive officers of the Rubber Goods Manufacturing Co. and the directors of the United States Rubber Co. The interment, which was private, was at Woodlawn Cemetery the next forenoon. The offices and branches of the various rubber companies with which Mr. Dale was connected were closed throughout Monday and during the time of the interment Tuesday. Mr. Dale is survived by a widow and daughter.

"Charley Dale," as his friends loved to call him, was ever a most forceful character. He despised pretense and hypocrisy and bluntly made the fact known whenever those twin vices showed their heads in his presence. He was a good organizer, and while able to do an immense amount of detail work, did not enjoy it. He hated delays, and fretted under them. To his energetic conception, Rome should have been built in a day, or a week at most, and he would have seen to it that it was done. He was a very firm friend, and tender-hearted to a degree that would surprise those who only saw the positive, business-like side of his character. Hard worker, clear thinker, plain speaker, loyal friend, all who knew him will long regret his untimely death.

Mr. Dale throughout his life maintained relations of friendship with railroad people whom he had known before he became a rubber man, and likewise many acquaintances of later date. He was for years a member of the Conductors' Association of New York, and on retiring from the highest position in that body, in 1893, was presented with a handsome gold watch by the members.

INCREASING YIELD OF BALATA.

WHILE the returns of production of balata gum leave something to be desired in the way of definiteness, they at least demonstrate that a steady increase has taken place in the yearly sales of this material. The principal sources of balata—all in South America—are Venezuela and the Guianas. The volume of exports from each of the producing countries is reported with reasonable exactness, but there is some interchange between the countries which doubtless leads at times to the duplication of small quantities.

To go back twenty years, British Guiana in 1887 exported 80,942 pounds of balata and Dutch Guiana 1093 pounds—total, 82,035 pounds; Venezuela exported none. By 1896 the figures had grown to 332,262 pounds for British Guiana, 433,999 for Dutch Guiana, and 165,000 for Venezuela—total 931,261 pounds.

During the past six years the yearly output of the three countries named has been as follows (in pounds):

YEAR.	British Guiana.	Venezuela.	Dutch Guiana.	Total.
1902.....	388,037	1,796,854	706,200	2,891,091
1903.....	743,553	2,408,073	814,000	3,965,626
1904.....	800,133	1,993,028	569,800	3,362,961
1905.....	774,665	2,816,169	536,800	4,127,634
1906.....	728,231	2,710,726	594,000	4,032,957
1907.....	834,728	3,203,141	765,120	4,802,989

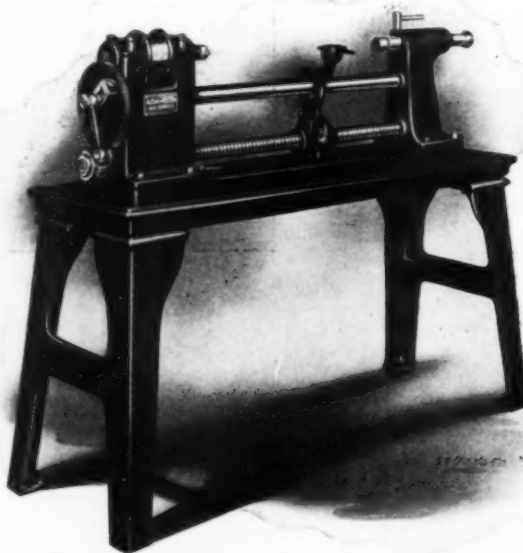
The figures in the table are given for calendar years for Venezuela and Dutch Guiana, and fiscal years for British Guiana. The exports of balata from British Guiana during the calendar year 1907 amounted to 987,225 pounds, the largest for that colony for any year yet recorded. The exports for the calendar year 1906 were 630,036 pounds.

French Guiana has some balata, but it has been exploited to a very small extent. Beginning with 1901 small shipments have been made annually, but not to exceed 16 tons in any one year. British import returns include balata in gutta-percha, and hence credit gutta-percha to all the countries and colonies above named, and also to Panama and Colombia. These two countries appear to have supplied Great Britain, in 1906 and 1907 respectively, with 14,672 and 33,040 pounds of gutta-percha. Of course it was not the article known commercially as gutta-percha. If it was balata, it was in addition to the production recorded in the preceding table, no matter what its source.

The American market does not yet call for a great deal of balata, though the figures are larger now than a few years ago. The customs service records the importation of 374,220 pounds in the fiscal year 1905-06 and 799,201 pounds in 1906-07, but as between different grades of india-rubber—and this is what it amounts to—the classification is not likely to be very exact. [See THE INDIA RUBBER WORLD, July 1, 1901—page 295.]

A NEW JAR RING MACHINE.

THE jar ring machine illustrated here is of a new design, has been given a thorough trial, and has given most satisfactory results. Among the characteristics are speed, accuracy, ease of operation, simplicity and durability. Its construction em-



braces light weight carriage, bed and drip pan combined. It is referred to as making 160 absolutely uniform rings per minute. It can be supplied with the straight knife, as shown in the illustration, or with a circular knife, as desired. Manufactured by A. Adamson, Akron, Ohio.

Planting Results in the Far East.

BUKIT RAJAH ESTATES.

THE directors of the Bukit Rajah Rubber Co., Limited, at the fifth annual meeting (London, July 6), reported rubber results as follows:

YEAR	Yield (pounds).	Gross Price.	Dividend.
1904-05.....	6,811	5s. 5.94d.	....
1905-06.....	33,203	5s. 4.48d.	6%
1906-07.....	118,982	5s. 3.62d.	30%
1907-08.....	163,521	3s. 8.87d.	30%

The rubber crop this year is estimated at 181,500 pounds. The acreage is 2368; acreage in bearing 720.

THE CICELY RUBBER ESTATES.

At the third annual meeting of Cicely Rubber Estates, Limited (London, June 23), the report stated that the results attained thus far have been from 159 acres planted to rubber, but that additional plots of about 200 acres would be coming into bearing each year for three years to come. The company's results to date may be tabulated thus:

	1905-'06.	1906-'07.	1907-'08.
Number trees tapped.....	6,919	8,020	9,000
Rubber yield, pounds.....	9,184	19,069	43,695
Average per tree	1.33lb	2.37lb	4.85lb
Average price realized.....	5s. 6d.	4s. 11d.	3s. 6d.
Average cost per pound.....	2s. 10d.	1s. 9d.	1s. 2d.
Dividend, preferred	10%	20%	42½%
Dividend, ordinary	5%	15%	37½%

It will be observed that the cost of producing the rubber (the figures do not include London charges) has declined almost as much as the gross price realized. What is better, the cost will remain at the low figure when selling prices have gone up again. The selling prices mentioned give \$1.78½ (gold) as the average product per tree in the first year; \$2.83½ per tree in the second year; and \$4.13 in the third year, despite the lower figure realized per pound.

FEDERATED (SELANGOR) RUBBER CO., LIMITED.

At the third annual meeting (London, July 9) the report showed 23,618 pounds of rubber to have been gained from 27,483 trees. Sales of rubber (22,872 pounds) realized an average of 3s. 7½d. [= 88 1-5 cents] per pound. Last year's yield was 7871 pounds, sold at 4s. 7d. [= \$1.11½]. The company have a small and declining yield of coffee. The rubber yield for this year is estimated at 45,000 pounds. The dividend for the year just closed—the first declared—is 8 per cent.

LONDON RUBBER SHARE PRICES.

A RECENT circular from Gow, Wilson & Stanton, Limited (London) reports: "There is a steady investment in progress in rubber shares, and the market is beginning to show a healthy aspect," reference being had to improvement since the period of the lowest point reached in crude rubber prices. Prices are given on the shares of 27 rubber producing companies. Recent quotations were 12s. and 13s. for Vallambrosa 2 shilling shares; 10s. 3d. and 10s. 9d. for Linggi 2 shilling shares; £3 9/16 for Anglo-Malay £1 shares; 13s. 6d. and 14s. 6d. for Selangor 2 shilling shares; £4¾ for Bukit Rajah £1 shares; £2¼ for Consolidated Malay £1 shares. Actual transactions are reported, and in the case of some issues considerable business done.

REPORTS OF PLANTING COMPANIES.

NOTWITHSTANDING the great volume of information relative to rubber planting companies at all times available to English investors, Mr. W. G. Tarbet, who has an intimate knowledge of this field, has found reason for issuing a daily *Rubber Investor*, from 2, Mincing lane, E. C., London, of which about a hundred numbers have been issued to date. The latest number to hand quotes current price of 149 rubber company

share issues—a few at a discount, but most of them above par, up to 6 times the face value of the shares. Mr. Tarbet is bringing out, in connection with his share quotations, a series of pamphlets, each devoted to the position of some leading rubber planting company—the Vallambrosa, Bukit Rajah, and so on—giving such information as is likely to interest an investor or intending investor. These very excellent reports are priced at 6d. each.

EXTENT OF PLANTING IN MALAYA.

THE report for 1907 of the Planters' Association of Malaya shows this organization to be made up of delegates from ten local associations in the Federated Malay States and adjoining districts. The report contains statistics from 183 estates which, at the end of the year, reported 417,147 acres under cultivation, of which 111,344 were devoted to rubber. There were 12,978 acres under rubber in bearing. The yield of rubber during the year is stated at 15,041¼ cwt., which would work out at about 1,684,620 pounds. The number of laborers reported on these estates was 66,042.

THE TRADE IN RUBBER TREE SEEDS.

EXPORTS of Pará rubber seed from Ceylon during 1907 as officially stated amounted to 2016 cwt. [= 225,792 pounds], of the value of 127,175 rupees [= \$41,259.39]. What is of particular interest in this connection is the wide distribution of these seeds, including 1942 cwt. to the following countries:

India	756	South America	90
Straits Settlements	337	Java	60
New South Wales	187	Burma	42
British North Borneo.....	124	British East Africa	58
Mauritius	125	Great Britain	45
Hongkong	93	Queensland	25

The seeds here referred to have been in demand, of course, for planting purposes, and the profit from their sale has been of definite advantage to the owners of plantations in both Ceylon and Malaya. Profits from this source can not be expected to be permanently large, but Mr. H. A. Wickham, in his new book "Pará Indian Rubber," makes a suggestion which is supported by the opinion of most of the authorities on rubber in the Far East. He says: "Another advantage in the *Hevea* over other rubber producing trees, and a point of importance as an asset in permanent estate production—as I pointed out so long ago as the 'seventies' (in my report for the India office)—the trifurc seed casks of the *Hevea* contain an oil seed giving freely, and in large quantity, a pure drying oil which is remarkable for its very fine quality. It will also give an 'oil cake' of unquestionable quality, as all cattle, from forest deer to bullocks, are very fond of it."

The *Hevea* is a prolific producer of seeds, even at an early age.

JAVA.

THE planting of *Hevea* rubber continues on a liberal scale, but as yet no trees of this species have become productive. The *Times of Ceylon* has had an interview with a recent traveler in Java who saw no *Hevea* on the island more than 3 years old. The planted 'rambong' (*Ficus*) rubber produced here, however, has been of good quality and good quantity, bringing the highest prices for "rambong."

FRENCH INDO-CHINA.

THE prospectus has been issued in France of the Concessions Agricoles et Plantations de Caoutchouc Tartarin, Société Anonyme, with 600,000 francs [= \$115,800] capital, to acquire and extend plantations in central Tonkin. There are now 50,000 planted *Ficus elastica* on the estate. Offices: 102, rue Nolle, Paris.

Planting Results in Mexico.

RUBBER YIELD ON "LA ZACUALPA."

A REPORT signed by O. H. Harrison, president of the La Zacualpa Plantation Co., on their "La Zacualpa No. 1" rubber plantation, in the Mexican state of Chiapas, says: "During the past year and up to December 10 last (1907) there were 257,760 different tappings of cultivated trees and the result was 40,000 pounds of refined rubber, giving an average of 2.52 ounces per tree from each tapping. A few of these trees were 7 years old; some were 6, but we estimate the majority at only 5 years, so that the average would be slightly under 6 years."

The company plan to tap their trees three times this year, but the report does not state how many of the trees dealt with last year were tapped more than once. It is mentioned, as showing the capacity of the trees that several of the age of 7 years were tapped twice last year—yielding about three ounces each at the first tapping and 8 to 11 ounces each four months later when bled severely.

The report continues: "The actual cost of collecting and curing the 40,600 pounds of refined rubber in 1907, on La Zacualpa No. 1 was \$3955.40, or 7 1/4 cents [gold] per pound. Figuring approximately 8 cents per pound as additional for maintenance and general expense of marketing, etc., makes a total of 15 cents per pound as the cost of harvesting and marketing."

MEETING OF MEXICAN RUBBER PLANTERS.

THE invitation for the summer meeting of the Rubber Planters' Association of Mexico is given in full below. The secretary, writing at a later date, informed THE INDIA RUBBER WORLD: "I regret that I am unable to give you the program in detail. The committee having the matter in charge is composed of busy planters who have not crystallized a program." The invitation follows:

At the meeting of the Rubber Planters' Association in February last, it was decided to hold a discussion meeting during the summer somewhere on the isthmus of Tehuantepec, and a committee was appointed to make the necessary arrangements.

This meeting will be held on July 31 and August 1 at San Geronimo, Oaxaca, and papers will be read by a number of gentlemen, among them Dr. Pehr Olsson-Seffer, Mr. J. C. Harvey, Mr. V. O. Peterson, Mr. L. A. Ostien, Mr. A. B. Coate, and Mr. Zeferino Dominguez.

It was intended to put on exhibition at this meeting the various exhibits which are to be shown at the International and Allied Trades Exhibition in London, September 14 to 26, but it has been found that these exhibits have to leave Vera Cruz on July 30, in order to reach London in time. A special circular, with shipping instructions, will be sent to members of the Association and exhibitors by the committee in charge.

All interested in rubber culture, and especially all members of the association, are cordially invited to be present at the meeting and to present papers or subjects for discussion.

Kindly inform Mr. V. O. Peterson, San Geronimo, Oaxaca, if you intend to be present, in order that accommodations may be provided.

W. B. MURRAY, Secretary.

City of Mexico, July 1, 1908.

Further details in relation to the Mexican display at the London rubber exhibition appear on another page of this paper. The post of secretary of the Association is now filled by Mr. W. B. Murray, editor of the *Mexican Investor*, his address being Apartado 117 bis, City of Mexico.

PLANTING COMPANY NOTES.

THE annual report of the Utah-Mexican Rubber Co. (Salt Lake City, Utah), after giving an account of the progress of their planted rubber in the state of Tabasco, Mexico, refers to the success of neighboring planters whose rubber is older. One paragraph says: "Another neighbor, Señor Acuna, had just returned from New York, where he had taken and sold 6000 pounds of rubber from 5000 cultivated trees of various ages." The pamphlet includes a photographic view of the San Juan Bautista store of Harburger & Stack, a New York firm (recently illustrated in THE INDIA RUBBER WORLD), showing in front of it what is described as 3000 pounds of rubber—"one day's receipts from a Tabascan rubber planter."

Mr. J. Herbert Foster, manager of the "Meriden" rubber plantation, at Tula de los Tuxtlas, in Mexico, reports to his company that he and two neighboring planters joined lately in shipping to New York 3000 pounds of cultivated rubber. Mr. Foster has resigned the secretaryship of the Rubber Planters' Association of Mexico, in order to be able to give his whole time to the Meriden plantation and has signed a contract to continue as manager for two years.

GUATEMALA.

THE Los Angeles Rubber, Lumber, and Fruit Co., organized in New Orleans in 1901, still hold the land they then acquired on the line of the Northern Railroad of Guatemala, about 30 miles from the coast. The company are operating a banana plantation there and have considerable planted rubber, now in the seventh year. They are understood to be desirous of disposing of their rubber property.

The first annual report of Cie. Franco-Belge du Guatemala [see THE INDIA RUBBER WORLD July 1, 1908—page 324] relates to the company's acquisition of lands—now aggregating 30,000 hectares [=74,130 acres]—and getting the sugar and lumber interests into shape. Evidently work has not been begun in connection with rubber.

RUBBER IN THE FRUIT OF A MEXICAN SMILAX.

REPORTING on an investigation of the fruits of a certain variety of smilax found in Mexico, C. Mannich writes in the *Notizblatt* of the Berlin royal botanical gardens (No. 42—March 11, 1908):

"23.7 grams of this fruit were placed at my disposal. The average weight of the fruit is 0.196 grams each.

"On breaking open the fruit, each seed proved to be provided with a thin covering or shell of a very elastic, brown substance, resembling rubber. This rubber like membrane was separated by mechanical means from the skins and kernels. The product thus obtained from 23.7 grams of fruit consisted of:

Rubber shells	0.6 grams.
Kernels	15.9 grams.
Skins	7.2 grams.

"The amount of rubber shells is consequently equivalent to 2.53 per cent. of the total weight of the fruit.

"Attempts were made to determine the percentage of pure rubber contained in the rubber shells. However, during this test such unforeseen difficulties were encountered as to make it impossible to conclude the determination. In fact, it was found that the substance in question is insoluble in all of the commonly used rubber solvents. On the other hand, these solvents caused each separate membrane to swell until it became a gelatinous mass. Tests were made with the following solvents: Carbon tetrachlorid, toluene, and chloroform. Toluene dissolved 10.8 per cent.

"In view of these results it appears rather doubtful whether the elastic shells which, in outward appearance, are exactly similar to rubber of good quality, contain any considerable amount of true rubber. The material at hand (0.6 grams) was insufficient for making further tests."

A COMMUNICATION printed in the New York *Herald*, from a civil engineer, attributes the frequent bursting of fire hose while under pressure at critical moments to the custom of folding or creasing hose when it is stowed away in the carriages. This correspondent advocates an immediate return to the old time reel as better adapted to preserving the life of the hose.

The Rubber Tire Field.

AN UNSETTLED TARIFF QUESTION.

THE question remains unsettled as to the rate at which automobile tires are dutiable when imported into the United States, in connection with, but not mounted upon, automobiles. The Auto Import Co. and other importers at New York protested last year against the payment of duties on certain automobiles as an entirety at 45 per cent. *ad valorem*, on the ground that the tires should be admitted as manufactures of india-rubber, on which the rate is only 30 per cent. The collector at New York was upheld by the board of United States general appraisers, who decided: "The tires accompany each machine; are packed in the same case with it; they are of the particular size for and are intended to be used on it, and without them the machine would be practically useless." The appraisers were unable to see why the tires forming part of a given automobile should be admitted at a rate of duty apart from that assessed against automobiles any more than other parts—wooden bodies, upholstering, bolts, or nuts—all of which materials are covered by provisions of the Tariff act equally specific with that of manufactures of india-rubber. [See THE INDIA RUBBER WORLD, May 1, 1907—page 244.]

The Auto Import Co., Archer & Co., and Massenet Deroche severally made application for review of the decision by the board of general appraisers to the United States circuit court for the southern district of New York, in which a decision adverse to the government was filed on May 23 last. The decision, written by Judge Platt, points out that the automobiles in question were imported with tires accompanying them, but the tires had not prior to importation been attached in such a way as to be capable of immediate use, and they were interchangeable and might or might not be used on the machines with which imported. Hence it was held that the tires and machines, never having been assembled in the country of production, did not together constitute an entirety, but were dutiable as though imported independently. It was observed that the tires are not so markedly a part of an automobile as nuts, bolts, and the like, because these latter are individual to the particular make of machine and are intended to stay until worn out, when they will be replaced by similar parts. But the tires are detachable and interchangeable, and may or may not be used on the particular automobile according to the choice of the owner.

The government has taken an appeal to the United States circuit court of appeals, second circuit.

It may be of interest in this connection to note that 1106 automobiles were imported into the United States during the fiscal year 1905-06; 1170 during the year 1906-07; and 974 during the first eleven months of 1907-08, presumably each equipped with tires. If the contention of the importers should prevail it will affect the import duty on nearly a hundred sets of tires per month.

TAXICABS AND THE TIRE TRADE.

THE rubber tire trade can hardly fail to be interested in the motor cab situation in Great Britain. The success of the cab services already established is leading to the formation of new companies everywhere, until it seems that the horse drawn cabs are doomed, and that cheaper, speedier service is at hand, employing a vastly greater number of vehicles, all requiring rubber tires.

The gross receipts of the General Motor Cab Co., Limited, of London, for the month ended February 13 last were £26,308 [= \$128,027.88], since which time they have increased continually, the figure for the month ended June 13 being £44,573 [= \$216,920]. The company's accounts this year will be made up to July 31, instead of May 14, as usual, making the year

about ten weeks longer. Already dividends have been declared amounting to 10 per cent.—or £49,700 [= \$241,865]—and a further dividend is expected at the end of the business year.

A favorable showing is made also by the United Motor Cab Co., Limited, of London. The two companies named, the pioneers in the metropolitan motor cab interest, were founded by Mr. Davison Dalziel, who has perfected plans for the absorption of the United by the General company, of which he will continue to be chairman. The capital of the combined businesses, to date from August 1, is to be £1,006,000 [= \$4,895,699]. The £1 shares of the General Motor Cab Co. were quoted lately at 25@26 shillings, and the United Motor Cab Co.'s shares at 24@25s.

The formation of new motor cab companies, throughout the United Kingdom, is reported all the while. Not only are new services reported in London and in the larger provincial towns, but cab lines are to run between towns. For instance, the Birmingham and Midlands Taxi-Cabs Co., Limited, with £250,000 [= \$1,216,625] capital, intend to operate 225 cabs in and between Birmingham and neighboring towns. They are referred to as having contracted with the Dunlop Pneumatic Tyre Co., Limited, for tires and detachable rims, and with the affiliated Dunlop Rubber Co. for various rubber accessories.

To the list of taxicab companies operating in New York city given in THE INDIA RUBBER WORLD last month must be added the Motor Taximeter Cab Co., lately incorporated under the state laws with \$150,000 capital authorized, to take over the taxicab service in the city maintained hitherto by the New York branch of Renault Frères, the French automobile manufacturers. Renault Frères have taken on also the making of taxicabs, large orders for which they have received from Paris and London. Fifty additional Renault cabs have been ordered by the new New York company.

The latest taxicab enterprise is the American Taxameter Cab Co., organized in New York, with \$1,500,000 capital, to operate cabs in New York, Chicago, Philadelphia, and Washington.

In Chicago the Auto Taxicab Co. has been organized, with \$30,000 capital, to inaugurate a service of Renault cabs, of which 50 have been ordered and 10 delivered.

TIRE COMPANY NOTES.

THE sale of "Continental" tires in Australia is controlled by The Continental C. & G. Rubber Co. Pty., Limited, of Melbourne. Lord Northcote, the governor general, has appointed this company purveyors of tires to his Excellency, and authorized them, to advertise themselves as such.

Continental Caoutchouc Co. (Nos. 1788-1790 Broadway, New York) are mailing to automobile owners some valuable information in convenient form on the upkeep of tires; also useful reference tables on interchangeable sizes—metric and American—proper inflation, and carrying capacity for "Continental" tires.

Mr. Arthur W. Moore has resigned the position of chief clerk of the passenger department of the Erie railroad in Chicago to become city salesman for the Firestone Tire and Rubber Co. (Akron, Ohio). He hopes to build up a good trade in supplying tires and other rubber goods to railroad men who own automobiles.

Michelin Tire Co. have established a branch at No. 2001 Euclid avenue, Cleveland, Ohio, in charge of Richard Tracy. They have appointed R. F. Thompson Pacific coast representative, with headquarters at San Francisco.

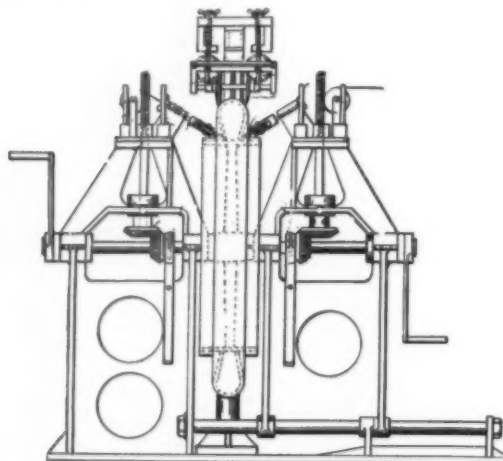
Two of the directors of the Midgley Manufacturing Co. (Columbus, Ohio,) elected at the annual meeting in April, Thomas Midgley and Charles S. M. Krumm, have resigned, being succeeded by B. D. Huggins and A. H. Johnson.

RESULT OF A TIRE PATENT SUIT.

In the United States circuit court for the district of Massachusetts, in *re* Boston Woven Hose and Rubber Co. v. Pennsylvania Rubber Co.—a suit for injunction to restrain the defendant from alleged infringement of United States patent No. 466,577, for a pneumatic tire, issued January 5, 1892, to Frederick Schrader, of Philadelphia—a decree was entered dismissing the bill of complaint on the ground that the patent claim was not infringed. The plaintiff appealed to the United States circuit court of appeals for the first circuit, in which court on July 15 the following was filed: "The decree of the circuit court is affirmed, and the appellee recovers its costs of appeal." Details regarding this suit appeared in THE INDIA RUBBER WORLD JUNE 1, 1907 (page 290).

BAYNE-SUBERS TIRE WINDING MACHINE.

THE illustration shows one of a series of drawing relating to a machine for laying threads in such a way as to form a fabric in connection with tire shoes that will give every bit of strength that the threads would give normally if woven, and at the same time a greater degree of resiliency. The machine,



AUTOMOBILE TIRE WINDING MACHINE

in brief, is so built that crossed threads, which are presumably covered with rubber cement, are first laid over the whole tread surface of the tire. Then threads similarly prepared are laid longitudinally above the crossed threads, but not in contact with them. These layers of crossed threads and longitudinal threads are alternated until a strong smooth fabric is built up to the rubber tread, when the whole mass is vulcanized in the usual way. This machine is the subject of United States patent No. 847,041, granted to Eugene D. C. Bayne and Lawrence A. Subers.

EFFECT OF RUBBER TIRES ON ROADS.

THE objects of the International Road Congress to be held in Paris on October 11-18 have had notice already in these columns. [See THE INDIA RUBBER WORLD, May 1, 1908—page 254.] The official program, later to hand, indicates that the questions to be considered at the Congress are even more interesting from the standpoint of the tire trade than was at first apparent. The idea is to consider roads as they now exist and as affected by the means of conveyances over them in vogue hitherto, after which will be taken up the effects of the more modern means of conveyance on the road. The influence of pneumatic and other rubber tires on various types of roads will be studied; also of anti-skid devices, and so on. Finally is to be taken up the consideration of how highways should be constructed to fit them for the requirements of the automobile age, no one being bold enough to suggest that existing roads be protected in their present state by suppressing the automobile.

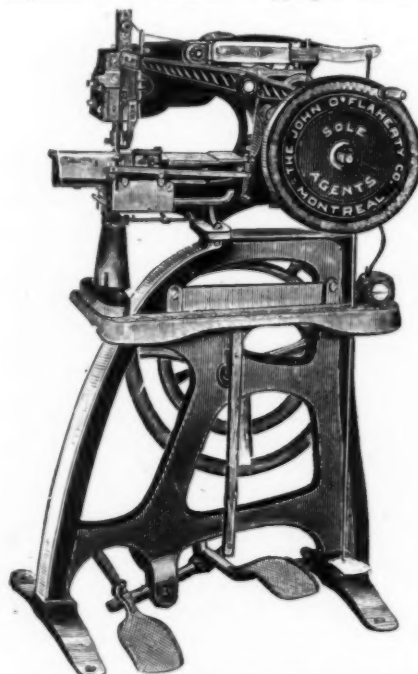
The French government, at whose instance the road congress has been called, has spared no pains to give it encouragement. The French railways will grant half rates both to delegates to the congress, and for exhibits to be shown in connection therewith. President Roosevelt has appointed as delegates from the United States: Logan W. Page, director of the office of public roads, department of agriculture, at Washington; Colonel Charles S. Bromwell, of the United States army engineer corps, in charge of the public buildings and grounds at Washington; and Clifford Richardson, of New York, an authority on bituminous road building materials.

* * *

At the first Legislative and Good Roads convention of the American Automobile Association (Buffalo, New York, July 7) one of the papers read was by Mr. L. W. Page, mentioned in the preceding paragraph, on "The Effect of Automobiles on Macadam Roads." He showed by illustrations how rapidly moving cars raise dust and loosen small particles of the roadways.

SEWING HORSESHOE PADS.

THE question has so often come to the office of THE INDIA RUBBER WORLD, "Who makes a machine for sewing horseshoe pads?" that it is a pleasure to illustrate and describe the new Pearson Automatic No. 6. It is really a harness sewing machine and sews wax thread through thick and thin work, without adjustment and without dropping a stitch. Although



SEWING MACHINE FOR HORSESHOE PADS.

the machine is known as a wax thread machine, it will sew with either dry thread, liquid-wax, or mucilaged thread. The machine is light running, simple and practically automatic. It is hardly worth while in this article to mention the parts in detail, as rubber factories that are interested can easily see the machine or get circulars from the sole agents in the United States, The John O'Flaherty Co., Rouse's Point, New York.

AFTER exhaustive tests of various makes the War office have placed their contract for tires with the Avon India Rubber Co., Limited, of Melksham, Wilts.

Rubber Interests in Europe.

CONSOLIDATION IN THE TRADE IN RUSSIA.

WHAT is described by the *Gummi-Zeitung* (Berlin) as a "rubber trust" is reported by that journal to have been formed in Russia. As is well known the rubber industry in Russia is chiefly in the hands of two great companies, located respectively at St. Petersburg and Riga, though several smaller rubber factories exist within the empire. As the news reaches Germany, the two large companies have become practically amalgamated, in connection with which some of the less important concerns have been purchased outright.

The report is that one-half of the capital stock of the "Prowodnik" firm at Riga, has been acquired by the Russian-American India-Rubber Co., of St. Petersburg, at a premium of 100 per cent. At last accounts the share capital of the "Prowodnik" was stated at 7,000,000 rubles [= \$3,605,000], while the reserve funds stood at 7,187,903 rubles. At the annual meeting of shareholders of the "Prowodnik" company, on May 16, one of the executive heads of the Russian-American company was elected a member of the board of directors. The Russian-American company is capitalized at 8,000,000 rubles [= \$4,120,000], with substantial reserves.

* * *

THE india-rubber industry in Russia had its beginning soon after 1830, when Henry Kirstein started a small factory in St. Petersburg. He had imitators from time to time, but none of them persisted long, and in 1853 he was alone in the field. Again there were newcomers, however, and Kirstein already had three rivals when, in 1860, the Russian-American India-Rubber Co. was organized at St. Petersburg, with a capital of 500,000 rubles. The new company finally absorbed Kirstein's factory and such new rubber businesses as were started from time to time, and for years held practically a monopoly in rubber goods in Russia. From the beginning "galoshes" figured prominently in the products, but gradually other lines have been added until now practically everything in rubber for which there is any demand in Russia is made at St. Petersburg. The export trade, especially in rubber footwear, is large. The company have always been alert to make themselves and their goods known, as an evidence of which was the superiority of their exhibit at the Chicago World's Fair in 1893, to anything else in rubber seen there.

Financially the St. Petersburg company seems always to have been successful. They have paid dividends of 50 per cent. and even higher, though for a few years past this rate has not been attained. The dividend for 1907 was 25 per cent., which called for a disbursement of 2,000,000 rubles [= \$1,030,000]. A correspondent of THE INDIA RUBBER WORLD writing from Europe some years ago mentioned the selling of some shares in the Russian-American company at 10,000 rubles—ten times the par value.

* * *

THE year 1888 saw the organization of a new rubber company on an important scale at Riga, and in June of the following year its factory was put in operation, since which time it has experienced a constant growth in size, capacity, working force, and production, while profits have been well maintained. This company has a long name in Russian which is not more briefly expressed in either German or French, but it may be referred to here as the Russian-French India-Rubber Co., or simply as the "Prowodnik" firm, the latter term designating the suburb of Riga in which the rubber works are located. Four thousand workers are employed, and the production embraces footwear in very large volume, general rubber goods, linoleum and asbestos. The net profits and rate of dividends for three years have been:

	1905.	1906.	1907.
Net profits	rubles 1,013,495	1,750,148	1,714,571
Dividend rate	8%	12%	12%

Not only do these factories aim at supplying the Russians with all their requirements in rubber goods, but so far as possible Russian materials are used. Of course they are obliged to import their crude rubber, but not so with reclaimed. Both the St. Petersburg and Riga companies have extensive reclaiming plants built in the United States—the home of rubber reclaiming—and embodying the latest practice.

* * *

REFERENCE is made to two other Russian firms by the *Gummi-Zeitung*, as follows: "It is reported as an assured fact that the firm of Weyerbusch & Co., in Moscow, was bought up about two weeks previously, and that the former proprietor had a large share in the purchase of the 'Prowodnik' stock. The stock of the Moskauer Gesellschaft für Gummiwaren-Manufaktur [Moscow Rubber Works], whose shares have been unsaleable for a long time past, have likewise been secured for the trust." The Moscow company was referred to lately as having a capital and reserves of about 2,000,000 rubles.

Our contemporary remarks further: "The purchasing of crude rubber supplies for the united manufacturing concerns will probably be centralized in the near future, and this undoubtedly will greatly influence the crude rubber market, in view of the large requirements of the consumers involved."

* * *

We quote from a later issue of the *Gummi-Zeitung*: "After we have twice published reports concerning the combination of the Russian rubber goods manufacturers without having been contradicted by any of the interested parties, the daily press is now publishing a notice under the heading 'The Russian Rubber Industry Not Formed Into a Trust.' In view of this notice we would point out that our reports were based on authentic data. If they were erroneous, the manufacturers mentioned in the same would certainly have been the first to contradict them, and to ask us to correct our statements. Their failure to do so constitutes an indirect confirmation of the truth of our reports."

"If the 'Prowodnik' firm has sent a refutation to the daily press, this may likewise be explained by the fact that the reports in the daily papers were different from ours and wider in their scope. While we merely stated that the St. Petersburg rubber company had bought a majority of the 'Prowodnik' stock, the daily papers reported that the 'Prowodnik' had ceased to be an independent company in consequence of the aforesaid combination. This is certainly not in accordance with the fact, and the refutation of this report by the 'Prowodnik' was, therefore, justified at least to that extent. This refutation does not, however, deny the existence of the combination as such."

* * *

TO THE EDITOR OF THE INDIA RUBBER WORLD: Answering to your letter of June 30, we beg to say that we have only regulated the annual production of galoshes between the two companies, according to the quantity which probably can be placed in our country. Yours truly,
RUSSIAN-AMERICAN INDIA RUBBER CO.
St. Petersburg, July 11, 1908.

NETHERLANDS.

AN important business in Rotterdam has been reorganized as a British public company, under the style R. S. Stokvis & Zonen, Limited with £375,000 [= \$1,824,837.50] capital authorized. The business was founded in 1844 by the late R. S. Stokvis, and four years ago was formed into a private limited company under the Dutch law—R. S. Stokvis & Zonen, Handelsmaatschappij. The business is in iron, steel, and hardware, the house buying chiefly

from Great Britain and selling in Holland, Belgium, and the Dutch colonies. The sales for 1907 amounted to £482,277 [= \$2,397,223.72]. The profit two years ago was £41,539 [= \$245,948], but last year, owing to the business depression, there was a decline. The board of the new company consists of Samuel R. Stokvis, a son of the founder, as chairman; five members of the third generation of the Stokvis family, and an English director, Sir George Scott Robertson, M. P., a railway company director. The Stokvis house has taken a prominent position in the automobile accessories trade, handling a full line from leading makers, including the "Gaulois" tires, made by Bergougnan et Cie., of Clermont-Ferrand. The Stokvis exhibit at the 1908 Amsterdam automobile exhibition was one of its leading features.

SWITZERLAND.

THE rubber goods business of Max Bertschinger, at Zürich, has been taken over by the firm Lamprecht & Co., composed of F. Lamprecht and F. Sattler, general partners, and A. Bertschinger, silent partner. They are representatives in Switzerland of William Warne & Co., Limited (London), and carry in stock an extensive line of druggist's sundries, surgical goods, and the like.

AUSTRIA-HUNGARY.

THE Internationale Elektrizitäts-Gesellschaft, electrical supply contractors, of Vienna, made a net profit in 1907 of 2,555,000 kronen [= \$518,665], as compared with 2,503,000 kronen [= \$508,109] for the preceding year. A dividend of 8 per cent. for the year was declared.

RUBBER NOTES FROM CANADA.

TWO rubber exhibits announced for the annual Canadian National Exhibition, to be held at Toronto, August 29 to September 14, are those of the Canadian Rubber Co. of Montreal, Limited—to be made by their Toronto branch—and the Dunlop Tire and Rubber Goods Co.

OUTING OF CANADIAN RUBBER EMPLOYEES.

THE fifth annual picnic tendered by the Canadian Rubber Co. of Montreal, Limited, to their employes took place Saturday, July 11. Two large boats of the Richelieu and Ontario Navigation Co. were chartered, and carried some 2100 people to Lavaltrie, about 45 miles below Montreal on the St. Lawrence river. The weather was superb. On arrival at the grove, lunch was served in a large circus tent, followed by racing and dancing. The French Canadians simply love to dance, on the boat, in the broiling sun, anywhere; as long as the music is kept going the French Canadian girl will dance. The First Victoria Rifles band, the best regimental band in Montreal, discoursed well known airs, while two orchestras played for dancing, one on each boat. The return trip was in the moonlight, and to appreciate a moonlight trip on the St. Lawrence, one has to experience it. The whole staff of the company accompanied the employes, and freely participated in the entertainments. The president, Major G. W. Stephens, was a host in himself, being very popular with the employes. The crowd arrived back at Montreal, a tired but happy people, who voted that it was the "best ever." Mr. A. D. Thornton was in charge, and was not the least satisfied of the officials.

CANADIAN EXPORTS AND IMPORTS.

OFFICIALLY stated values of exports of Canadian manufactures of india-rubber and gutta-percha for three fiscal years ended March 31:

To—	1906.	1907.	1908.
Great Britain	\$88,007	\$37,406	\$52,947
United States	199,303	220,902	11,540
Australasia	50,596	41,409	47,813
Other countries	103,904	81,761	92,530
Total	\$442,810	\$381,478	\$204,830

Officially stated values of dutiable imports of india-rubber and gutta-percha goods for years ending March 31:

FROM—	1906.	1907.	1908.
Great Britain	\$102,277	\$116,285	\$182,360
United States	629,946	640,748	666,307
Other countries	27,383	41,886	49,457
Total	\$729,606	\$798,889	\$898,124

NEW RUBBER FACTORY IN CANADA.

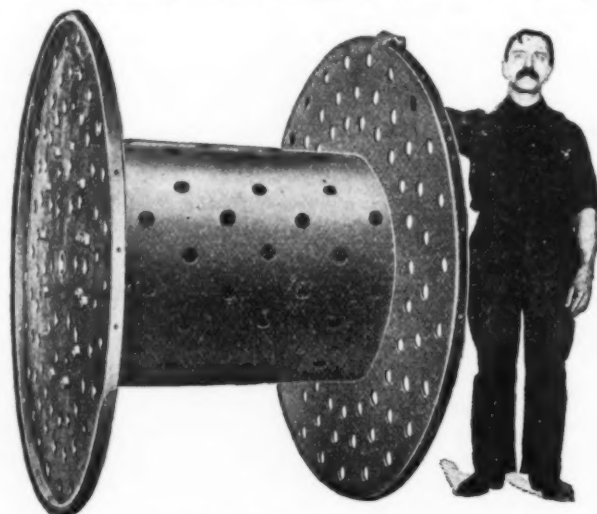
THE Kaufman Rubber Co., Limited (Berlin, Ontario), are understood to be making good progress with the erection of their rubber footwear factory. The main building is to be 200 × 60 feet, with a wing 60 × 60 feet, the whole to be four stories, in addition to a basement 10 feet in height, with a total of about 78,000 square feet of floor space. The building is of reinforced concrete, square twisted steel bars being used for the reinforcement.



ment. The equipment will include the latest improved machinery, being supplied principally by the Farrel Foundry and Machine Co. (Ansonia, Connecticut). Installation of the machinery will begin early in this month; the company hope to see the building completed by the first of September, and to have the factory in operation by October 1. The registered brands of the company appear herewith—"Life Buoy" being their first quality brand and "Rubber Leaf" their second quality brand. Details in THE INDIA RUBBER WORLD, December 1, 1907 (page 90).

STEEL VULCANIZING REELS.

AN extensive use is made in insulated wire factories, of steel reels, such as that shown in the illustration, which, by the way, is 60 inches in diameter. They are used for handling wire during the processes of manufacture, such as vulcanizing,



SIXTY INCH VULCANIZING REEL.

insulating, braiding, twisting, and annealing, as well as for shipping. Another form of steel reel, from the same makers, has one head capable of being readily removed, while when put in place it will stay without coming loose. There are occasions when the reel with a removable head is particularly convenient, especially in handling cables during vulcanization. Made by Frank Mossberg Co., Attleboro, Massachusetts.

THE RUBBER TRADE IN SAN FRANCISCO.

BY A RESIDENT CORRESPONDENT.

THE past month finds conditions of trade in the rubber business in San Francisco about the same as during the previous month, with some of the firms reporting a slight increase in activity, and some stating that business has been slightly more quiet than last month. The general situation seems to be that the trade is enjoying a steady although uneventful business. While merchants seem sincerely to look forward to a satisfactory increase, they will not say when the busier times will commence. Most firms think that trade will begin to show increase in the fall, and some contend that it will be next spring, and after the new presidential regime has commenced that things will begin to be something in the nature of "boom" times again. Commercial life is now at a comparatively low ebb, but there is enough to do to keep all of the establishments going with fairly good results, and in some cases the reports would indicate that confidence is already sufficiently restored to have caused a considerable revival in business. Reports from the interior of the coast and country sections show that in the matter of crops the country was never in a better condition, and it is only the unsettled state of the money market that prevents conditions from being the very best.



GOODYEAR RUBBER CO.'S NEW BUILDING.

[In the store and offices now completed at Nos. 587-591 Market Street, the company have more room available than in the premises occupied before the fire of 1906.]

Mr. L. L. Torrey, manager of the Pacific coast branch of the Pennsylvania Rubber Co., reports that business is getting into pretty good shape and that collections are very good. In fact, there is a great improvement in the trade in almost all lines excepting perhaps the automobile business. So many people are now away on their vacations, who have left their automobiles idle, that there is not much buying or repairing in that line.

Mr. Redding, sales manager of the Diamond Rubber Co., states that the new store on Mission and Second streets is now completely equipped with a full stock of mechanical goods and tires, and that business is satisfactory, although still quiet.

The Barton Packing and Rubber Co., successors to Barton, Squires, Byrne, Inc., have added two more hydraulic presses to their rubber factory equipment and a new heater thus increasing the capacity about 30 per cent. Mr. Barton returned this week from an extensive trip through the Eastern states. The report of R. J. McNeilly, sales manager, is that the outlook is good for a fair fall business. The Boston company have issued a very complete new illustrated catalogue.

Mr. Matthew Hawe, treasurer of the Gutta Percha and Rub-

ber Manufacturing Co. (New York), recently made a visit to the Pacific coast, spending some time in San Francisco, where the firm have an old established branch.

William Eaton, representative of the New York Belting and Packing Co., Limited, who was injured in an automobile accident nearly a year ago, is again having trouble with his injured leg, and may again have to go to a hospital.

Mr. W. J. Gorham, of the Gorham Rubber Co., has returned from Los Angeles, where he was looking out after the company's interest in the southern portion of California. He reports that things are picking up there, and in some respects he found business better than in any other portion of the coast territory.

Ed. Garrett, coast agent for the Yankey boiler and certain rubber lines, has rented an office in the building occupied by the Plant Rubber and Supply Co., on Beale street, near Market.

Mr. R. H. Pease, president of the Goodyear Rubber Co., expects to go to Portland the 1st of August. "Business is improving," he said, "and is getting on well up to the business of previous years. We now have a great many advance orders and it looks as if the fall business would be very fair. We are settled in the new 10-story building on Market street, near Second, and have more ground floor space than in our old location before the fire." The new store is handsomely fitted up in solid oak and is well arranged for both style and convenience. In this issue is shown a cut of the new building occupied by the company. It is Class A in every particular, and in one of the most prominent locations in the city.

Coffin-Reddington Co., large wholesale dealers in druggists' sundries, now occupy the new building which has been recently completed at Nos. 35-45 Second street.

Mr. W. Perkins, president of the Sterling Rubber Co., states that trade seems to be getting some better, and that the outlook is favorable for a good fall business.

Mr. Sargeant, of the Gorham Rubber Co., states that from San Francisco indications are that there will be a gradual improvement, which will be more perceptible in the fall, and that in the meantime business will continue to be rather quiet.

Mr. Kanzee, of the Phoenix Rubber Co., is now showing a new invention for which he has secured the agency—the invention of a San Francisco man, on which a patent has been applied for. The Phoenix company have secured the exclusive right to manufacture and sell the device in the United States. It is a sanitary toilet seat, especially for public lavatories. It is made of hard rubber, with rubber casket on the base. The seat is hollow on the inside, and the hollow portion contains a sponge which extends all around the seat and is kept saturated with a disinfectant.

Mr. Caldwell, formerly sales manager for the rubber mechanical department of Baker & Hamilton, is now in the employ of the Phoenix Tool and Valve Co.

THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

AUGUST 1 marks the eighth anniversary of the establishment of the Firestone Tire and Rubber Co., who now claim to have become the largest concern in the world devoted exclusively to the tire manufacture. The concern is the outgrowth of a business established by H. S. Firestone, August 1, 1900. At that time there were two employes—a bookkeeper and a stenographer. The tires which put into practice Mr. Firestone's patents in the line of sidewire solid tires, were manufactured by another company. The business grew until the company now operate a factory of their own, in which 600 people are employed. The business each month, according to the statement of an official, amounts to a half million dollars. Branches have been established in the principal cities of the United States and the tires introduced in all parts of the country. For a number of years the manufacture was confined to solid tires but within recent years pneumatics have been placed on the market extensively.

The annual meeting of shareholders of The Motz Clincher Tire and Rubber Co. was held on July 6. The directors chosen were Charles Motz, Gus F. Burkhardt, Nicholas H. Seil, William Wolf, Paul E. Bertsch—all reelected—E. J. Alderfer, and Howard Haupt. The officers were reelected, as follows: C. Motz, president; G. F. Burkhardt, vice president; N. H. Seil, secretary and treasurer; P. E. Bertsch, manager.

Akron Rubber companies were well represented in the Glidden tour. The B. F. Goodrich Co. had H. C. Miller, general tire representative of the company, and W. O. Rutherford, manager of the Buffalo branch, with the tour, following the route by rail and looking after the interests of the company. N. E. Oliver, manager of the Buffalo branch of the Diamond Rubber Co., represented that concern on the tour, traveling by automobile. For the first time in a Glidden tour the demountable rim was used, two cars being equipped with the Diamond demountable rim. W. C. State, of Akron, represented the Goodyear Tire and Rubber Co. He drove in a Rapid truck, which carried Goodyear air bottles for the free use of tourists in inflating tires.

[The fifth annual tour of the American Automobile Association for the Glidden and Hower trophies started from Buffalo, New York, on July 9 and ended at Saratoga Springs on July 23, the route taking in seven states, including Maine. The tourists had to cross five mountain ranges and innumerable streams, and travel roads ranging from common dirt roads to the best macadam and asphalt. While primarily this is a contest between different makes of automobiles, the tire results also were watched with interest. There were 29 entries for the Glidden trophy and 14 for the Hower trophy.]

The spread of the taxicab system to Washington city has brought with it another order for solid tires for the Goodyear Tire and Rubber Co. Within the last two months the Terminal Taxicab Co. has been organized in the capital and an initial order for the equipment of 50 cabs with pneumatic tires has been placed with the Akron concern. The tires are furnished on practically the same basis as were those for the New York Taxicab Co. and the New York Transportation Co., that is, the tires remaining the property of the manufacturer and the users paying by the mile for the service. An equipment of Goodyear air bottles goes with the order.

The B. F. Goodrich Co. are mailing to their patrons copies of the annual vacation picture. It portrays a number of Goodrich salesmen in a balloon on the way to Mars. The balloon is shaped like an elephant and labelled "The Biggest in Rubber." Below is seen the plant of the company.

Mr. B. G. Work, president of The B. F. Goodrich Co., returned from Europe the last week of June. He was across the water over two months. Mr. H. E. Raymond, sales manager of the same company, is expected to return not later than August 1.

O. S. Hart and I. R. Bailey, respectively cashier and salesman for The Diamond Rubber Co., with their wives, spent a week on the great lakes in the middle of July. J. E. Argus, salesman for the Diamond Rubber Co., located in San Francisco, spent a week in Akron early in the month.

A. B. Jones, formerly engineer of maintenance of way with the Cleveland, Akron and Columbus railway, resigned his position with that company on July 1 and took a position with The Diamond Rubber Co., becoming connected with their reclaiming plant in South Akron.

The Diamond Rubber Co. are building an addition to their machine shop—a tile building over 100 feet square, and located south of the present plant. It will be connected with the main buildings by a bridge over Jackson street.

The Goodyear Tire and Rubber Co. established a branch office and store in Cleveland, Ohio, on June 1. It is located at No. 2005 Euclid avenue and is in charge of C. C. Hammerle, formerly of Akron.

The Boston branch of the Diamond Rubber Co. has been

moved from No. 174 to No. 223 Columbus avenue, where a large part of the Pope building has been leased. The change is to take effect on August 1.

A conference of the branch managers of The Goodyear Tire and Rubber Co. was held in Akron, on June 27.

The first large exclusive contract for 1909 automobiles has been awarded to The Diamond Rubber Co. It is an order for 2500 Marsh rims for the Chalmers-Detroit Motor Co., manufacturers of the new Chalmers-Detroit cars. This concern was formerly the E. R. Thomas Detroit Motor Co.

THE JOHN A. ROEBLING STATUE.

A STATUE of the late John A. Roebling was unveiled at Trenton, New Jersey, on June 30, the occasion being made a public holiday. Mr. Roebling was born in 1806 at Mülhausen, Saxony; he studied engineering and philosophy, and at the age of 25 years came to America well equipped for the important career which opened before him. Incidental to the development of his wire rope, his method of suspension for cable



THE ROEBLING STATUE.

bridges, and other important inventions, came the organization of the great factory and industries at Trenton, operated now under the style of John A. Roebling's Sons Co., by worthy representatives of the second and third generations of the family in America. The Trenton works cover 35 acres, employ 6,000 hands, and have an annual output valued at \$20,000,000. The coming of the electrical era opened the way to a development of the Roebling industries not contemplated by the founder, but the efficiency of the management has been shown by its success in placing the company in the forefront among the manufacturers of wires and cables for electrical equipment. The use of rubber for insulation by the Roebling firm is so extensive as to make of that department an important rubber manufacturing plant. The Roebling statue is of bronze, on a granite pedestal, and reaches a height of 16 feet from the ground. On the pedestal are bronze panels with inscriptions and reliefs showing the Brooklyn and Niagara bridges, etc. It was designed by William Couper, an American, and stands in Cadwalader Park, Trenton.

News of the American Rubber Trade.

UNITED STATES RUBBER CO.—DIVIDENDS.

THE board of directors of the United States Rubber Co., on July 2, declared from the net profits of the company for the fiscal year the regular quarterly dividend of 2 per cent. on the first preferred stock (including all outstanding old "preferred" stock) and the regular quarterly dividend of 1½ per cent. on the second preferred stock, to holders of record on June 15, payable without closing of the transfer books on July 31.

THE OLD BOSTON RUBBER CO.—A REMINDER.

ONE of the buildings which formed premises of the Boston Rubber Co., at Chelsea, Massachusetts, has been sold to L. Sneiersen & Sons, who will occupy it as a flour bag factory. It is a six-story brick building at Nos. 37-39 Winnisimmet street, and was used by the Boston Rubber Co. as a warehouse. The Boston company's plant in time became the property of the United States Rubber Co., and was not operated after April 1, 1896. The sale of the building here mentioned will not interfere, it is said, with the use of the rubber company's remaining property in Chelsea for manufacturing purposes.

THE NEW TREASURER OF L. CANDEE & CO.

MR. WILLIAM H. GILBERT, of Woonsocket, Rhode Island, who was elected recently to be treasurer of L. Candee & Co. (New Haven, Connecticut), assumed the duties of that office on July 1. Mr. Gilbert began his connection with the trade 21 years ago as receiving clerk at the Millville factory of the Woonsocket Rubber Co. For some time past he has been assistant general manager of the Joseph Banigan Rubber Co., in addition to which he for several years audited the books of the branch offices of the United States Rubber Co., throughout the country.

OUTING OF THE "NATIONAL" CLERKS.

THE foremen, clerks, and salesmen of the National India Rubber Co. (Bristol, Rhode Island) had their seventh annual clambake on Saturday, June 27, at the Tobin farm. There were about 50 in attendance, including Agent LeBaron C. Colt, Secretary Walter De F. Brown, and Superintendent Cushman, who were the guests of the day. The day's program embraced various athletic sports, including a baseball game between married and single nines, won by the former—10 to 9. The clambake, presided over by James A. Munro, of the National company's printing department, was enthusiastically praised. The committee in charge of the outing consisted of Charles Henning, Edward Bunn, J. Louis Coggeshall, E. E. Wilkinson, John Conley, W. R. Davis and J. A. Munro.

HYGIENIC RUBBER WORKS, MUSKEGON.

THE Hygienic Rubber Works is the new name of the business at Muskegon, Michigan, organized early in 1907 as the Osius Chemical Co., Inc., for the manufacture of dental vulcanite and dental specialties. Dr. Frederick Osius, who was president of the first company, has become sole proprietor under the new arrangement. The new management will add the manufacture of stamp rubber. The address is Nos. 13-17 First street, Muskegon.

A CALMON BRANCH IN AMERICA.

A DISTRIBUTING center for the sale in the United States, Mexico, and Cuba of the asbestos goods and special lines of rubber goods of the Calmon works in Hamburg is to be established in New York, under the style of The Calmon Asbestos and Rubber Works of America. The local company will be incorporated in due time with the following officers: Edward H. Garcin, lately of the Combination Rubber Manufacturing Co. (Bloomfield, New Jersey), president; Rudolf Gruber, of the New York banking house of Ladenburg Thalman & Co., vice president; Rudolf Gaerter, secretary and treasurer. Under this arrangement the Asbest- und Gummiwerke Alfred Calmon Aktien-

gesellschaft have for the first time a direct representation in the United States. The company have a capital of 10,500,000 marks [= \$2,499,000], and employ in their factories at Hamburg some 6,000 hands. Their asbestos works probably are the largest in existence. They obtain raw material from their own mines from the town of Calmon, in Quebec, Canada. The company's products include asbestos paper, asbestos millboards, asbestos yarn, asbestos cloth (for technical and mechanical purposes and for theater curtains); also Calmon's asbestos slates for building purposes, and asbestos insulating materials for the electrical industry. The Calmon rubber factory turns out all the lines of mechanical goods as well as rubber shoes and automobile tires. It is understood that Mr. Alfred Calmon, the founder of the company named and its managing director, who has paid several visits to America, will be on this side the Atlantic again in the autumn.

A LARGE CABLE CLOTH CONTRACT.

WITHIN the past month the Massachusetts Chemical Co. (Walpole, Massachusetts) have entered into contract with one of the largest firms of insulated wire and cable manufacturers to supply their entire requirements of cable cloth. The wire and cable company in question have for many years made their own cable cloth, but have been convinced that by delegating this part of cable making to the Massachusetts Chemical Co., whose exclusive specialty is insulating compounds and the impregnating of fabrics with the same, they not only will get a better and more uniform product but get it at a lower cost than that at which they have been producing it themselves.

SCHULTZ PATENT RUBBER CO.

GEORGE W. SCHULTZ, for a number of years engaged in business in the mechanical rubber goods and asbestos fabric lines in Philadelphia, after having retired for a while, announces that he has resumed business in these lines under the new title of Schultz Patent Rubber Co., later to be incorporated under the laws of Pennsylvania. Mr. Schultz was some time a partner in Sayen & Austin Rubber Co., and later in Sayen & Schultz, which succeeded the former company in 1900. The new business is located at No. 1230 St. James street, Philadelphia. The company for the present will have manufactured for their trade a line of packings and other mechanical goods, and also asbestos specialties, from compounds and formulas which they own.

AN ASSIGNMENT.

THE R. H. Smith Manufacturing Co. (Springfield, Massachusetts) made an assignment on June 26 to Robert A. Knight and Charles H. Beckwith, for the benefit of creditors. The business of the company is asserted to have been profitable, both in the rubber stamp and stamp outfit department and in the manufacture of the Smith speedometer. It is intimated that the main reason for the assignment was that the business had outgrown its capital, and the continuation of the business is looked for. Mr. R. H. Smith, the head of the business, died recently, and a reorganization of the company was reported in THE INDIA RUBBER WORLD of June 1 (page 308).

THE DUTY ON SAFETY FUSE.

AN importation of mining safety fuse at Denver, Colorado, was assessed for duty as a manufacture of cotton, under paragraph 322 of the Tariff act, which reads: "All manufactures of cotton not specially provided for in this act, 45 per cent. *ad valorem*." The importers claimed the goods to be properly dutiable at the rate of 35 per cent. *ad valorem* under paragraph 450 of the Tariff act, as an article in which gutta-percha is the component material of chief value. After a hearing the United States general appraisers at New York sustained the protest of the importers.

HARDMAN RUBBER CO. RECEIVERSHIP.

WILLIAM A. SMITH, of Newark, New Jersey, receiver for the Hardman Rubber Co., of Belleville, N. J. [See THE INDIA RUBBER WORLD, March 1, 1908—page 203], at the end of June paid a dividend of 20 per cent. to the creditors. There are some other matters to be disposed of and some possible litigation. It is stated that a further dividend of 15 to 20 per cent. is expected.

COTTON DUCK INDUSTRY.

BALTIMORE advices are that six mills of the Consolidated Cotton Duck Co. resumed work lately, after having been closed for a fortnight, and are running four days a week. They are reported to be at work on a good order for government supplies. Mt. Vernon mills No. 1 and No. 3, owned by the Consolidated company, did not close down for the usual midsummer overhauling. The latter mills are running five days a week.

GREENWALD RUBBER CO.'S FIRE.

THE plant of the Greenwald Rubber Co. (Buffalo, New York), on June 30, was completely destroyed by fire which started in the laboratory. Mr. Lemon Greenwald, the president, advises THE INDIA RUBBER WORLD that new and larger premises have been secured, and a new equipment installed that will enable them to double their former output. They have resumed the manufacture of "Fillem", for tires, an article for which an important demand has grown up both in the United States and in foreign markets.

THE LARGEST GASKETS EVER MADE.

MORGAN & WRIGHT recently completed an order for 18 rubber gaskets, for use between the tubes of the Michigan Central Railway tunnel under the Detroit river, their purpose being to render the tunnel watertight. Each gasket is circular in form, 24 feet in diameter, and weighs 425 pounds.

SUMMER VACATION OF FOOTWEAR FACTORIES.

THE "Alice" and Millville mills of the Woonsocket Rubber Co. were closed on July 23 for periods of two and three weeks, respectively. Superintendent Schlosser, in giving notice of the shutdown, announced that on resuming work the "Alice" mill would require 100 additional shoemakers. The Fells factory of the Boston Rubber Shoe Co. will begin a three weeks shutdown on August 5. The summer shutdown of the Apsley Rubber Co. began on July 24, to last two weeks.

MILFORD RUBBER CO.—FACTORY CLOSED.

THE Milford Rubber Co. (Boston), have closed their waterproofing factory at Milford, Massachusetts. The company was incorporated May 24, 1899, with a capital of \$10,000, which was increased gradually to \$40,000. The rubber machinery has been removed from the building, which, it is understood, will be occupied by a different line of business. They may resume manufacturing at Milford, New Hampshire, removing their offices there.

NEW INCORPORATIONS.

TRIUMPH Automobile Tire Co., July 1, 1908, under the laws of West Virginia; capital authorized, \$1,000,000. Incorporators: Henry E. Keyes, Charles O. Derr, and W. E. Johnson, Homestead, Pa.; C. K. O'Hara, Akron, Ohio; W. P. Stewart, Wheeling, W. Va.

The Colorado Fisk Rubber Co., June 22, 1908, under the laws of Colorado; capital, \$5,000. Incorporators: Harry G. Fisk (secretary of The Fisk Rubber Co., of Chicopee Falls, Mass.), Max Meyer, and William G. Philippeau. Principal office, Denver, Col.

Sullivan Co., June 24, 1908, under the Rhode Island laws; capital, \$12,000. To deal in boots, shoes, and rubbers, at Providence, R. I. Incorporators: J. Joseph McElroy, Ambrose E. McElroy, and John M. Humphrey.

Rubber Import Co. of New York, July 21, 1908, under the laws of New Jersey; capital, \$25,000. Incorporators: A. S. Brunn, H. A. Schaubert, and C. Newkirk. To deal in waste rubber. Offices, Hackensack, N. J.

W. R. Thropp & Sons Co., July 21, 1908, under the laws of New Jersey; capital, \$50,000. Incorporators: W. R. Thropp, I. E. Thropp, and J. W. Thropp. To make and deal in rubber and other machinery, at Trenton, N. J.

International Automobile League, May 20, 1908, under the laws of New York; capital, \$50,000. The incorporators include Alfred C. Bidwell (No. 234 North Division street) and William Preiss, both of Buffalo, N. Y.

Rubberlife Manufacturing Co., June 12, 1908, under the laws of Michigan; capital authorized, \$30,000. Incorporators: Alfred D. Rathbone, Benjamin S. Hanchett, and Norman Bellon. Offices in Grand Rapids, Mich. The company control "Rubberlife", a filler for tires.

Fisk Rubber Co. of New York, July 6, 1908, under the laws of New York state; capital \$5,000. Incorporators: William G. Philippeau and Max Meyer, of New York city, and Alfred N. Mayo, treasurer of The Fisk Rubber Co. (Chicopee Falls, Massachusetts).

TRADE NEWS NOTES.

TYSON BROTHERS, successors to Robert E. Tyson in the manufacture of rubber substitutes, at Fairfield, Connecticut, state that they have increased their equipment and are prepared to handle promptly orders for any grade of substitute.

King & Leatherow, Limited, who began at Newark, New Jersey, early in 1906, the manufacture of seamless air and gas balloons and seamless nipples, have removed to Bloomfield, N. J., where they are established at No. 463 Bloomfield avenue.

The National India Rubber Co. (Bristol, Rhode Island) are mentioned as having received government orders for 15,000 rubber ponchos, of which 5000 are for the navy and 10,000 for the army.

A recent report was to the effect that representatives of Belgian manufacturing interests were in Woonsocket, Rhode Island, considering the purchase of the factory buildings occupied by the Woonsocket Rubber Co. before the building of the company's "Alice" mill.

The rubber goods store of Oliver R. Howe was one of several business places damaged by fire in Lynn, Massachusetts, on July 9. The stock was only partially injured, however, and the loss amply covered by insurance.

A damage suit for \$20,000 has been filed against the Boston Rubber Shoe Co. by Daniel J. Sullivan, of Malden, Massachusetts, who claims to have been injured by an explosion of oil in one of the company's factories.

The Stoughton Rubber Co. was prominently represented in the military and trades parade, on July 1, which formed a leading feature of the celebration of "Old Home Week" at Stoughton, Massachusetts.

"Get Ready for Prosperity" is the title of a readable booklet which Mr. Frederick J. Maywald, a consulting chemist, of No. 89 Pine street, New York, is sending out to rubber manufacturers. If one should be overlooked, the gentleman named will be pleased to have a request for the booklet.

The Dayton Rubber Manufacturing Co. (Dayton, Ohio), have taken on the manufacture of the Fawkes airless tire, invented by Charles G. Fawkes, of Denver, Colorado, who formed a company to market it, but which came to an end through litigation. The tire has withstood the test of time creditably, and has undergone some modifications for which patents have been granted.

H. S. Cover, of South Bend, Indiana, to whom several patents have been granted on rubber goggles for the use of motorists and others, has filed a suit in the United States circuit court at Chicago against The Beckley-Ralston Co., to maintain his rights under these patents.

A new edition has been issued of the constitution and by-laws of the New England Rubber Club, together with a list of members and their addresses, revised to June 1, 1908. The membership is shown to be 238.

RUBBER FACTORY STRUCK BY LIGHTNING

The factory of The Victor Rubber Co. (Springfield, Ohio) was struck by lightning early on the morning of June 20 and burned to the ground. The factory was located on Mad river, at Snyderville, outside of Springfield, and the fire was beyond control too quickly for the Springfield fire department to be of assistance. The newspapers report the loss at \$125,000, with \$60,000 insurance. The building was not owned by the company. It was erected some ten years ago by an earlier company of the same name, which failed in 1904, owing to the financial embarrassment of John S. Harshman, the first president and largest shareholder, being succeeded by the present Victor Rubber Co., incorporated July 2, 1904.

TRADE NEWS NOTES.

The Beacon Falls Rubber Co. (Beacon Falls, Connecticut) are installing a new boiler in their factory.

The machinery of the Globe Mills Rubber Co. (Lawrence, Mass.), which company was incorporated at the end of 1904 and manufactured rubber footwear for some time, ceasing operations in the summer of 1907, was purchased by the W. C. Coleman Co. (Boston), who have disposed of practically all of it.

The employes of the brass foundry department of the Boston Woven Hose and Rubber Co. had an enjoyable outing at Lexington, Mass., on July 18.

Notices have been posted at the two factories of the Boston Rubber Shoe Co. that they will be shut down on August 5, for the annual summer vacation, and resume operation on August 27. The two factories of the United States Rubber Co. at Naugatuck, Conn., will be closed from August 8 to August 31. Meanwhile a number of repairs will be made in both factories.

American Wax Co. (No. 161 Summer street, Boston), manufacturers of insulated wire waxes, announce that they are prepared to supply upon request, with their compliments, blue prints showing plans for insulated wire saturating tanks, constructed on the principles outlined in article by Mr. Coleman on another page.

The Apsley Rubber Co. (Hudson, Massachusetts) have adopted a plan for saving water at their factory on an important scale. The plan is to conduct the water from calenders, grinders and washers to storage tanks, where it is forced into the boilers or used for other purposes on the premises.

The P. & H. Tire Co., No. 1657 Broadway, New York, announce that Norvell, Shapleigh & Co., of St. Louis, have become their distributing agents for the United States, for the entire territory, except the states of New York and New Jersey.

The Buffalo Foundry and Machine Co. (Buffalo, New York), who, besides making exceptionally large castings, are builders of vacuum drying and impregnating machinery, vacuum drum, shelf and rotatory dryers, compressors, pumps, condensers, and the Bell steam hammer, recently established a New York office at No. 143 Liberty street, having engaged Mr. H. E. Jacoby as resident engineer and manager in New York.

The Michelin Tire Co. are referred to as having had their factory at Milltown, New Jersey, in operation 24 hours a day for the past five months.

Mr. Isaac Crocker, of Providence, Rhode Island, treasurer of the Hope Rubber Co., and also of the "Crocker Rubber Stores Syndicate" of New England, tendered an outing and reception to his managers and other employes of his different stores, about thirty in number, on July 4 and 5. The affair took place at his beautiful summer residence at Glendale, New Hampshire, on the shore of Lake Winnepesaukee.

The Rubberset Brush Co. (Newark, N. J.) had a prominent display at the exhibition held in connection with the fourth annual convention of the New Jersey Master Painters' and Decorators' Association, at Asbury Park, beginning on July 22.

PERSONAL MENTION.

Mr. M. SIDNEY PARRY, who was among THE INDIA RUBBER WORLD's visitors during the month, has been identified with planting interests in the Far East for a dozen years or more, and is now a director in several important rubber planting companies. Mr. Parry crossed the Pacific and the American continent, and was on his way home to England, where he will reside for most of the time hereafter. He was among the pioneers in the rubber culture in Ceylon, and later in Malaya, and is convinced that the future profits from plantation rubber will be more marked even than heretofore.

Mr. C. Edward Murray, treasurer of the Empire Rubber Manufacturing Co. and of two other rubber manufacturing companies at Trenton, is likewise quartermaster general in the military establishment of the state of New Jersey, and as such has been in attendance at the annual encampment at Camp Fort, Sea Girt, N. J., which began on July 11, with a four weeks' program.

Mr. William A. De Long has been selected to act as trustee to administer the affairs of the New York firm of Coster, Knapp & Co., stock brokers, who were put into bankruptcy on May 6, and given bond in the sum of \$50,000. The liabilities are \$1,601,561, according to the schedules. Mr. De Long retired from active business some time ago, after having been for many years active in the crude rubber trade in New York.

Mr. B. T. Morrison, treasurer of the Reading Rubber Manufacturing Co. (Boston and Reading, Mass.), has told his friends, *sub rosa*, that he intends shortly to resign his position and devote himself particularly to the care of the large property interests that have come to him, partly through inheritance.

Mr. Humphrey O'Sullivan, president of the O'Sullivan Rubber Co. (Lowell, Massachusetts), was one of the delegates from his state to the national Democratic convention at Denver, and was placed on the committee to formally notify the Hon. William J. Bryan of his nomination for the presidency of the United States.

Dr. Adolfo de Clairmont, president of the Peru-Pará Rubber Co., is consul for Peru at Toledo, Ohio, the city of his residence.

Mr. Henry C. Pearson, Editor of THE INDIA RUBBER WORLD, has been appointed chairman of the contest committee of the Massachusetts Automobile Club—one of the clubs affiliated with the Automobile Club of America—which renders him a member *ex officio* of the contest committee of the latter club, representing the Massachusetts body thereon. The national committee are empowered to "frame rules, issue sanctions, and govern speed and other competitions in the United States."

Mr. A. M. Paul, president of the Davidson Rubber Co. (Boston), returned from his summer vacation about July 20.

Herr Willy Tischbein, a director of the Continental Caoutchouc-und Guttapercha-Compagnie, of Hanover, Germany, and president of the Continental Caoutchouc Co. of New York, was a recent visitor to the United States.

Mr. Homer E. Sawyer, general manager of the United States Rubber Co., and Colonel Harry E. Converse, president of the Boston Rubber Shoe Co., are on a visit to Europe, having sailed from New York July 18 by the steamer *König Albert*.

Mr. Watson H. Linburg, president of the United and Globe Manufacturing Cos. (Trenton), has been appointed by the governor of New Jersey a member of the Delaware river bridge commission.

Vice President Lester Leland, of the Rubber Goods Manufacturing Co., will serve as acting president for the time being, owing to the death of Mr. Dale, president of the company.

The swinging hose racks invented and manufactured by H. J. M. Howard (Washington, D. C.) are largely used in the government buildings. The government printing office is equipped with 4,000 feet of No. 1 underwriters' linen hose supported on 80 Howard racks of one type. The United States treasury building is supplied with nearly 5,000 feet of similar hose, supported on Howard racks of a different design.

UNITED STATES RUBBER CO.'S SHARES.

TRANSACTIONS on the New York Stock Exchange for five weeks ending July 25:

COMMON STOCK.

Week June 27	Sales 1,515 shares	High 25½	Low 24
Week July 3	Sales 750 shares	High 24½	Low 24
Week July 11	Sales 3,410 shares	High 26½	Low 24½
Week July 18	Sales 7,075 shares	High 28	Low 26
Week July 25	Sales 5,100 shares	High 28¾	Low 27¾

For the year—High, 28¾, July 22; Low, 17½, Feb. 26.
Last year—High, 52½; Low, 13½.

FIRST PREFERRED STOCK.

Week June 27	Sales 310 shares	High 92½	Low 92½
Week July 4	Sales 800 shares	High 93½	Low 92½
Week July 11	Sales 2,200 shares	High 97¾	Low 94¼
Week July 18	Sales 2,451 shares	High 99¾	Low 96½
Week July 25	Sales 2,167 shares	High 97½	Low 96½

For the year—High, 99¾, July 14; Low, 76, Feb. 19.
Last year—High, 109¾; Low, 61¼.

SECOND PREFERRED STOCK.

Week July 27	Sales 116 shares	High 58	Low 58
Week July 4	Sales 100 shares	High 60	Low 60
Week July 11	Sales 500 shares	High 63	Low 61
Week July 18	Sales 200 shares	High 62½	Low 62¼
Week July 25	Sales 400 shares	High 65	Low 64

For the year—High, 65, July 20; Low, 42, Feb. 21.
Last year—High, 78¼; Low, 39.

OBITUARY NOTES.

MRS. GEORGINA DERBY CLAPP, widow of the late Charles Martin Clapp, died on July 13. Funeral services were held on July 16 at the residence in Roxbury, Massachusetts, built by her husband some years before his death in 1897. Mr. Clapp was for many years identified with the rubber industry in New England, in which he won an unusual degree of success.

MRS. JULIE M. TRUMAN, wife of Henry H. Truman, a member of the New York Stock Exchange and former mayor of Orange, New Jersey, died at her home in that city on June 25, in her fifty-sixth year. Mrs. Truman was the daughter of the late Charles Gideon Judson, of Woodbury, Connecticut, and later of New York City and Orange. For 15 or 20 years prior to 1875 Mr. Judson was in the rubber goods business in New York, being for part of that time New York manager for the Nashawannuck Manufacturing Co. (Eathampton, Massachusetts).

TRADE NEWS NOTES.

THE Sprague Electric Co. (No. 527 West Thirty-fourth street, New York) have opened a branch at Seattle, Washington, in addition to the one already maintained on the Pacific coast at San Francisco. While primarily an electrical company, the Sprague company's armored hose branch has become a very important part of their business.

W. F. Schacht, hitherto superintendent of the Elkhart Rubber Works (Elkhart, Indiana), has been elected president of the company. He is actively assisted in the conduct of the business by Secretary J. O. Waterman.

Howard Ramie Fibre Manufacturing Co., incorporated last year in New Jersey [see THE INDIA RUBBER WORLD, August 1, 1907, page 354] have begun operations through a subsidiary concern—Howard Ramie Gas Mantle Co., capitalized at \$125,000. The superiority of ramie over all other textiles for gas mantles is claimed. The company's factory is at Kenilworth, New Jersey, and the main office at No. 19 Park place, New York.

Harold Stimson, lately manager of the Ajax-Grieb Rubber Co.'s branch at Seattle, Washington, has been transferred to the New York office, as assistant to President De Lisser. Frank Lumsden, formerly of the Ford Motor Co., succeeds Mr. Stimson as manager at Seattle.

The Harburg and Vienna India-Rubber Co. (of Great Britain), Limited, was registered June 30, with £5,000 capital, to carry on the business conducted hitherto by the Vereinigte Gummiwaaren-Fabriken Harburg-Wien branch houses in London, Birmingham, and Glasgow.

NEW TRADE PUBLICATIONS.

LAMPRECHT & CO., a new firm, successors to Max Bertschinger (Zürich, Switzerland), manufacturers of soft rubber goods and representatives in Switzerland of William Warne & Co., Limited (London), have issued, under date of May, 1908, a "Catalogue Illustré" of druggists' sundries and allied goods, involving a line unusually varied and complete. The descriptive matter is printed in both German and French. [8" × 10½", 120 pages.]

J. ELLWOOD LEE Co. (Conshohocken, Pennsylvania) issue a Catalogue of Truss Department—the output of which embraces many items containing rubber. The catalogue also embraces elastic hosiery. The firm now manufacture the rubber parts of their trusses. [6½" × 9¼", 64 pages.]

THE B. F. GOODRICH Co. (Akron, Ohio), in "A Book on Rubber Belting," in addition to listing a great variety of belts, give some interesting general information on this line of rubber goods, together with letters from a number of satisfied belt users. Special mention is made of belting for paper mills, mine elevators, grain elevators, oil wells, and belt conveyors. The price list includes items ranging from 7 cents to \$15.68 per foot. [5¾" × 8½", 40 pages.]

FIRESTONE TIRE AND RUBBER Co. (Akron, Ohio) have issued one of the handsomest trade publications of the year—"Firestone Side-Wire Tires"—designed to illustrate the great development of the modern commercial motor vehicle, and the consequent importance of the demand which has been created for rubber tires. The company omit from this extensive pamphlet any argument of their own in behalf of their tires, but instead present scores of letters from manufacturing and commercial firms using these tires on motor vehicles, with illustrations of the various types of cars. Fire apparatus is included, and more than 200 cities and towns are named in which "Firestone" tires are used on such apparatus. [9¾" × 12¼", 32 pages.]

DAVID T. ABERCROMBIE Co. (New York) issue an illustrated catalogue of Camp Outfits which is so complete that it would seem that nothing required for an out door vacation has been overlooked. Naturally, since waterproof articles are so desirable in camp life, very many items of rubber goods are included. [5" × 7", 168 pages.]

ALSO RECEIVED.

THE Adams & Ford Co., Cleveland, Ohio=The Everstick Foothold. 6 pages.

William F. Mayo & Co., Boston=[Catalogue (No. 1, 1908), of Rubber Footwear from leading manufacturers; comprising the lots which formerly were offered each year at auction.] 40 pages.

Sprague Electric Co., New York=Flexible Steel Armored Hose. (Bulletin No. 507.) 16 pages.

Imperial Manufacturing Co., Newark, New Jersey=Pneumatic Cushion Keys for Typewriters. 4 pages.

Innerseal Manufacturing Co., Cleveland, Ohio=Innerseal Puncture Remedy [for tires]. 4 pages.

Barrett Manufacturing Co., Philadelphia=A New Tarvia Treatment. [Tarvia is a substance for treating roadways for motoring use to render them dustless.] 24 pages.

Rubber Scrap Prices.

LATE New York quotations—prices paid by consumers for car-load lots, per pound—show an advance, as compared with last month:

Old rubber boots and shoes—domestic.....	7¾@ 7½
Old rubber boots and shoes—foreign.....	7¼@ 7½
Pneumatic bicycle tires.....	6 @ 6½
Automobile tires.....	6 @ 6½
Solid rubber wagon and carriage tires.....	7 @ 8
White trimmed rubber.....	10½@ 11
Heavy black rubber.....	4½@ 4¾
Air brake hose.....	3¾@ 4
Garden hose.....	2 @ 2¼
Fire and large hose.....	2¾@ 1½
Matting.....	1½@ 1½

Review of the Crude Rubber Market.

PARA grades are quoted at lower figures to-day than at the beginning of July—the decline being more marked for Islands than for Upriver—a condition due, of course, to the relation of supply to demand. Islands fine new is about 4 cents per pound lower; we quote no change, in Upriver coarse new, and prime Eastern plantation rubber is higher. Changes in other than Pará grades similarly seem to have followed no particular rule. Some African grades have advanced as much as 2 cents per pound, while Benguellas have declined 4 cents. Most lines of Centrals likewise have dropped and Assams have lost more than any other item on the list. Pará and Manáos quotations show little change from last month's figures, and the exchange rate is practically the same.

The new crop year begins with the smallest arrivals at Pará for several years past. During the first 28 days of July—the first month in the crop year—Pará received 445 tons of Islands rubber, 515 tons of Upriver, and 240 tons of Caucho—total, 1,200 tons. Complete July arrivals last year were 1,375 tons, and in 1906, 1,840 tons. Average for July for five years, 1,437 tons.

The share of Amazon rubber exports taken by New York during the last crop year was unusually small, but this condition has been offset somewhat by the shipments of Pará's from Europe to New York, which were particularly large during the past month.

It is too early to discuss the American political situation as related to business conditions. There is no evidence, however, of grave apprehension over any possible outcome of the presidential election. Fortunately only three months remain of the political campaign, by which time the result will be a matter of record and not of anticipation.

Following are the quotations of New York for Pará grades one year ago, one month ago, and July 30—the current date:

Pará.	Aug. 1, '07.	July 1, '08.	July 30.
Islands, fine, new.....	107@108	87@88	83@84
Islands, fine, new.....	none here	none here	96
Upriver, fine, new.....	115@116	93@94	91@92
Upriver, fine, old.....	117@118	95@96	94@95
Islands, coarse, new.....	62@63	44@45	42@43
Islands, coarse, old.....	none here	none here	none here
Upriver, coarse, new.....	90@91	64@65	64@65
Upriver, coarse, old.....	none here	none here	65@66
Caucho (Peruvian), sheet	71@72	50@51	49@50
Caucho (Peruvian), ball..	90@91	62@63	60@61
Ceylon (plantation), fine sheet	133@134	103@104	104@105

AFRICAN.

Sierra Leone, 1st quality	78@79	Lopori ball, prime.....	80@81
Massai, red.....	78@79	Lopori, strip, prime....	62@63
Benguela	44@45	Madagascar, pinky....	64@65
Accra flake.....	15@16	Ikelemba	none here
Cameroon ball.....	47@48	Soudan niggers.....	54@55

CENTRALS.

Esmeralda, sausage....	61@62	Mexican, scrap.....	60@61
Guayaquil, strip.....	45@46	Mexican, slab.....	42@43
Nicaragua, scrap.....	59@60	Mangabeira, sheet.....	44@45
Panama	44@45	Guayule	25@26

EAST INDIAN.

Assam	72@73	Borneo	26@27
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Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine	4\$030	Upriver, fine.....	4\$900
Islands, coarse.....	1\$650	Upriver, coarse.....	3\$100
		Exchange	15 7/32d.

Latest Manáos advices:

Upriver, fine.....	5\$200	Exchange	15 3/16d.
Upriver, coarse.....	3\$200		

Statistics of Para Rubber (Excluding Caucho).

	NEW YORK.		Total	Total	Total
	Fine and Medium.	Coarse.	1908.	1907.	1906.
Stocks, May 31.....	309	61 =	370	369	287
Arrivals, June	908	416 =	1,324	726	538
Aggregating	1217	447 =	1,664	1,095	825
Deliveries, June	957	390 =	1,347	792	634
Stocks, June 30.....	260	87 =	347	303	191

	PARA.		ENGLAND.		
	1908.	1907.	1908.	1907.	1906.
Stocks, May 21.....	635	605	90	1,595	1,060
Arrivals, June	1,220	1,070	1,485	987	565
Aggregating	1,855	1,675	1,575	2,582	1,625
Deliveries, June	1,482	1,505	1,545	1,347	675
Stocks, June 30.....	373	170	30	1,235	950

	1908.	1907.	1906.
World's visible supply, June 30.....	2,854	2,223	2,150
Pará receipts, July 1 to June 30.....	29,640	31,530	29,069
Pará receipts of Caucho, same dates.....	6,950	6,340	5,620
Afloat from Pará to United States, June 30	371	240	659
Afloat from Pará to Europe, June 30.....	528	560	365

NEW YORK RUBBER PRICES FOR JUNE (NEW RUBBER).

	1908.	1907.	1906.
Upriver, fine .....	.88@.94	1.08@1.12	1.23@1.25
Upriver, coarse .....	.62@.65	.86@.88	.90@.92
Islands, fine .....	.84@.89	1.04@1.10	1.19@1.22
Islands, coarse .....	.43@.46	.61@.63	.65@.66
Cameta .....	.53@.56	.70@.71	.70@.72

NEW YORK RUBBER PRICES FOR MAY (NEW RUBBER).

	1908.	1907.	1906.
Upriver, fine .....	.83@.94	1.12@1.16	1.24@1.26
Upriver, coarse .....	.58@.65	.88@.92	.90@.93
Islands, fine .....	.80@.90	1.10@1.15	1.21@1.23
Islands, coarse .....	.43@.48	.62@.67	.65@.71
Cameta .....	.48@.57	.70@.72	.70@.73

IMPORTS OF RUBBER AT BORDEAUX.

	Kilos.		Kilos.
1899.....	175,589	1904.....	1,182,703
1900.....	239,532	1905.....	1,330,480
1901.....	235,380	1906.....	1,716,004
1902.....	678,000	1907.....	1,516,420
1903.....	1,113,000		

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values of exports of manufactures of india-rubber and gutta-percha for May, 1908, and for the first eleven months of five fiscal years, beginning July 1, from the treasury department at Washington:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All Other Rubber.	TOTAL.
May, 1908	\$83,984	\$121,343	\$320,921	\$526,248
July-April	1,141,634	1,365,616	3,122,544	5,629,794
Total	\$1,225,618	\$1,486,959	\$3,443,465	\$6,156,042
Total, 1906-07....	1,135,116	1,082,003	3,358,459	5,575,578
Total, 1905-06....	1,119,010	1,425,324	2,685,511	5,229,845
Total, 1904-05....	892,232	1,135,610	2,327,757	4,355,599
Total, 1903-04....	802,985	1,045,192	2,242,130	4,090,307

Liverpool.

WILLIAM WRIGHT & Co. report [July 1]:

Fine Para.—During the early part of the month prices declined 2d. per pound, but later on the market steadied, and closes at 1d. per pound advance on the closing rates for May. The demand from the trade here has been dull, but there has been a moderate demand from America; on balance the market has been governed by speculators. Apart from this fact, there is a strong undercurrent of strength, and in view of small receipts and an anticipated further resumption of the American demand, holders of stock are quite prepared to wait, especially as money is cheap and prices considerably lower than for some years past; and further, owing to the low prices ruling, African imports for the coming season are expected to show a heavy decline.

Antwerp.**ANTWERP RUBBER STATISTICS FOR JUNE.**

DETAILS.	1908.	1907.	1906.	1905.	1904.
Stocks, May 31..kilos	771,577	752,914	725,251	347,104	742,215
Arrivals in June	401,063	206,779	208,358	540,911	271,334
Congo sorts	397,745	250,350	203,562	453,418	189,300
Other sorts	63,318	40,429	94,796	87,493	82,034
Aggregating	1,232,640	1,049,693	1,023,600	888,015	1,013,540
Sales in June	547,774	377,900	404,775	305,029	324,034
Stocks, June 30.	684,866	671,793	618,834	582,086	689,515
Arrivals since Jan. 1.	2,605,825	2,578,734	3,026,806	2,761,199	2,825,760
Congo sorts	2,257,536	2,194,578	2,313,641	2,211,067	2,317,432
Other sorts	348,289	384,156	713,165	550,132	508,328
Sales since Jan. 1.	2,927,853	2,365,125	3,143,159	2,719,574	2,747,145

RUBBER ARRIVALS FROM THE CONGO.

JUNE 22.—By the steamer <i>Albertville</i> :	
Bunge & Co. (Société Générale Africaine) kilos	60,000
Do	17,600
Do	28,000
Do	17,500
Do	2,900
Société Coloniale Anversoise (Cie. du Kasai)	112,000
Do	3,800
Société Générale de Commerce (Alimaienne)	4,000
L. & W. Van de Velde	3,000
	249,450

Congo Rubber Exports.

EXPORTS of rubber from the Congo Free State in three recent years are officially stated as follows:

	1904.	1905.	1907.
Total rubber exports	5,764,644	6,108,421	6,069,876
Product of the State	4,830,939	4,861,767	4,656,723
	VALUES.		
Total rubber exports	51,881,796	54,975,789	57,329,979
Product of the State	43,478,451	43,755,993	43,982,745

Exports include rubber in transit through the Free State, from the French Congo and from neighboring German and Portuguese territory.

Lisbon.**RUBBER ARRIVALS [YEAR ENDING JUNE 30].**

SORTS.	1904.	1905.	1906.	1907.	1908.
Benguella	1818	1885	1547	1600	1343
Loanda	909	704	570	687	789
Thimble	143	177	111	101	93
All other	66	51	74	62	42
Total	2936	2817	2302	2540	2267

PARA RUBBER VIA EUROPE.

JUNE 26.—By the <i>Etruria</i> =Liverpool:	
New York Commercial Co. (Fine).....	24,000
JUNE 27.—By the <i>Campania</i> =Liverpool:	
Poel & Arnold (Medium).....	19,000
Poel & Arnold (Coarse).....	11,000
C. P. dos Santos (Coarse).....	22,500
Robinson & Co. (Fine).....	4,500
	37,000
JULY 2.—By the <i>Caronia</i> =Liverpool:	
Poel & Arnold (Fine).....	32,000
A. T. Morse & Co. (Fine).....	8,500
C. P. Santos (Coarse).....	22,500
	83,000
JULY 6.—By the <i>Lucania</i> =Liverpool:	
General Rubber Co. (Fine).....	45,000
A. T. Morse & Co. (Fine).....	9,000
	54,000
JULY 6.—By the <i>Baltic</i> =Liverpool:	
Poel & Arnold (Medium).....	22,500
JULY 8.—By the <i>Lincoln</i> =Hamburg:	
W. L. Gough Co. (Fine).....	8,000
George A. Alden & Co. (Fine).....	8,500
	17,500
JULY 9.—By the <i>Orinoco</i> =Mollendo:	
New York Commercial Co. (Fine).....	5,000
JULY 9.—By the <i>Umbria</i> =Liverpool:	
Poel & Arnold (Fine).....	36,000
C. P. dos Santos (Coarse).....	22,500
	78,500
JULY 10.—By the <i>Cedric</i> =Liverpool:	
Poel & Arnold (Fine).....	44,500
JULY 10.—By the <i>Lusitania</i> =Liverpool:	
C. P. dos Santos (Coarse).....	22,500
Joseph Cantor (Coarse).....	11,500
General Rubber Co. (Fine).....	5,500
	39,500
JULY 11.—By the <i>Augusta Victoria</i> =Hamburg:	
Poel & Arnold (Fine).....	22,000
Poel & Arnold (Coarse).....	22,500
	49,500
JULY 14.—By the <i>Mesaba</i> =London:	
General Rubber Co. (Coarse).....	35,000
JULY 16.—By the <i>Carmania</i> =Liverpool:	
New York Commercial Co. (Fine).....	125,000
Poel & Arnold (Fine).....	55,000
A. T. Morse & Co. (Fine).....	11,500
Robinson & Co. (Coarse).....	2,500
Poel & Arnold (Coarse).....	11,500
	205,500
JULY 16.—By the <i>Deutschland</i> =Hamburg:	
Poel & Arnold (Coarse).....	22,500
JULY 16.—By the <i>Talisman</i> =Cuidad Bolivar:	
G. Amsinck & Co. (Fine).....	70,000
G. Amsinck & Co. (Coarse).....	40,000
General Export Co. (Fine).....	48,000
General Export Co. (Coarse).....	22,500
American Trading Co. (Fine).....	10,000
Kunhardt & Co. (Fine).....	10,000
Kunhardt & Co. (Coarse).....	2,000
	202,500
JULY 17.—By the <i>Mauwetania</i> =Liverpool:	
New York Commercial Co. (Fine).....	13,500
Joseph Cantor (Coarse).....	2,500
	16,000

Para.

R. O. AHLERS & Co. report [June 23]:

With the news of a considerable advance in the home markets the existing supply of upriver grades has been eagerly bought up at a slight advance, and our market is now brought to a standstill on account of want of stock.

R. O. AHLERS & Co. report [July 9]:

With the increasing prices holders of *sertao* [upriver] have considerably diminished their stocks here, as well as in the consuming markets. The crop which finished on June 30 shows a deficiency of about 1100 tons against last year's receipts. Regarding the coming crop, there is every appearance that it will be an early one, and with the beginning of next month the first lots are expected from the Madeira.

We are informed by the house of Scholz, Hartje & Co. that the following partners are retiring from the firm: Frank da Costa, Arthur da Costa, Luiz da Costa and Cezar José de Figueiredo, withdrawing all capital and profits belonging to them. The remaining partners, Waldemar Scholz and Frederico Hartje, with N. H. Witt, will carry on the business as usual, with the same capital as heretofore.

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

JUNE 25.—By the steamer *Crispin*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
New York Commercial Co.	22,000	12,200	17,600	67,500	119,300
General Rubber Co.	57,400	11,900	52,200	900	122,400
Poel & Arnold	28,900	5,800	17,900	4,400	57,000
C. P. Santos			12,500	24,400	36,900
Ed. Recks & Co.	1,400		10,600	16,800	28,800
A. G. Morse & Co.		1,200	7,100	15,300	23,600
William E. Peck & Co.			9,300	7,900	17,200
Hagemeyer & Brunn	7,100		7,300		14,400
Total	126,100	31,100	133,100	129,300	419,600

JUNE 23.—By the steamer *Acre*, from Pará:

G. Amsinck & Co.	13,700	3,500	39,200		56,400
L. Johnson & Co.	33,400	8,600	1,600		43,600
Total	47,100	12,100	40,800		100,000

JULY 6.—By the steamer *Madeirense*, from Manáos and Pará:

New York Commercial Co.	97,400	23,700	38,100	36,900	196,100
General Rubber Co.	120,100	23,200	52,200	1,600	197,100
A. G. Morse & Co.	86,000	14,400	75,800	7,400	183,600
C. P. Santos	30,300	8,300	8,700	40,300	107,600
Poel & Arnold	22,000	2,700	49,600	27,000	101,300
Hagemeyer & Brunn	30,300	700	9,900		40,900
Edmund Recks & Co.	3,200	300	16,500		20,000
Total	409,300	73,300	250,800	113,200	846,600

JULY 22.—By the steamer *Boniface*, from Manáos and Pará:

Poel & Arnold	141,600	36,800	90,500	7,100	276,000
General Rubber Co.	59,100	35,900	184,900	500	280,400
New York Commercial Co.	89,100	20,200	56,600	111,900	277,800
C. P. Santos	36,400	11,800	37,000	7,700	93,900
A. T. Morse & Co.	14,100	2,500	42,000	32,400	91,000
Hagemeyer & Brunn	7,900		24,400		32,300
Ed. Recks & Co.	7,500	1,000	11,900		20,400
G. Amsinck & Co.			8,100		8,100
Total	355,700	108,200	455,400	159,600	1,078,900

JULY 20.—By the *Arabic*=Liverpool:

C. P. dos Santos (Coarse).....	22,500
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JULY 20.—By the *Minnehaha*=London:

General Rubber Co. (Coarse).....	45,000
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JULY 22.—By the *Campania*=Liverpool:

General Rubber Co. (Fine).....	145,000
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New York Commercial Co. (Fine)..... 85,000

General Rubber Co. (Coarse)..... 34,000

JULY 23.—By the *Pennsylvania*=Hamburg:

New York Commercial Co. (Fine)..... 15,000

Poel & Arnold (Coarse)..... 11,500

OTHER NEW YORK ARRIVALS.

CENTRALS.

JUNE 23.—By the <i>Advance</i> =Colon:	
Hirzel, Feltman & Co.	10,000
G. Amsinck & Co.	4,500
Eggers & Heinlein	1,500
Isaac Brandon & Brs.	1,000
Andreas & Co.	1,000
Meyer Hecht	1,000
	19,000

JUNE 25.—By the *Crispin*=Ceara:

Emile Boris	23,500
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JUNE 25.—By the *Siberia*=Colon:

G. Amsinck & Co.	15,000
A. M. Capens Sons	8,000

RUBBER FLUX

No. 17. Particularly adapted to softening material for tubing machine. Almost universally used for waterproofing wire.

No. 48. For fluxing pigments in compounding. A valuable adjunct to the manufacture of moulded goods as it **does not blow under cure.**

WRITE FOR PRICES.

Massachusetts Chemical Co.

WALPOLE, MASS.

Operates Walpole Rubber Works; Walpole Varnish Works.

WE ARE OFFERING SCRAP RUBBER AT LOW PRICES



Theodore Hofeller & Company

BUFFALO, N. Y.

WE SOLICIT YOUR INQUIRIES



MANUFACTURE

Waxes for Saturating and Finishing the Braid of all kinds of Insulated and Weatherproof Wire that will stand both the A. T. & T. Co.'s and Fire Underwriters' Laboratory Tests

IMPORTERS AND EXPORTERS

Ozokerite, Caranauba, Hydro-Carbons

American Wax Co.

Factory, South Boston

Office, 161 Summer St., Boston

Isaac Brandon & Bros.....	1,500	
Mecke & Co.....	1,500	
Suzarte & Whitney.....	1,500	
A. Santos & Co.....	1,000	28,000
JUNE 26.—By the <i>Etruria</i> =Liverpool:		
Geo. A. Alden & Co.....	7,000	
JUNE 26.—By <i>El Sud</i> =Galveston:		
Continental-Mexican Rubber Co.....		80,000
JUNE 27.—By the <i>Panama</i> =Colon:		
G. Amsinck & Co.....		2,000
JULY 3.—By the <i>Alianza</i> =Colon:		
G. Amsinck & Co.....	2,500	
Demarest Bros. & Co.....	2,000	
Hirzel, Feltman & Co.....	2,000	
Roldau & Van Sickle.....	1,500	
M. Blanco & Co.....	1,000	
M. Held.....	1,000	
Bartling & Co.....	1,000	11,000
JULY 3.—By <i>El Siglo</i> =Galveston:		
Continental-Mexican Rubber Co.....		*\$5,000
JULY 6.—By the <i>Monterey</i> =Frontera:		
E. Steiger & Co.....	1,500	
Harburger Stock.....	4,500	
H. Marquardt & Co.....	1,500	
E. N. Tibbals Co.....	1,000	18,500

JULY 6.—By the <i>Verdi</i> =Bahia:		
New York Commercial Co.....	22,500	
A. D. Hiter & Co.....	22,500	
Poel & Arnold.....	75,500	
A. Hirsch & Co.....	13,500	75,500
JULY 7.—By the <i>Denver</i> =Galveston:		
New York Commercial Co.....		*112,000
JULY 7.—By the <i>El Valle</i> =Galveston:		
Continental-Mexican Rubber Co.....		*125,000
JUNE 27.—By the <i>Mexico</i> =Frontera:		
American Trading Co.....	5,000	
E. Steiger & Co.....	3,500	
Harburger & Stack.....	3,500	
E. N. Tibbals & Co.....	3,500	
Scholtz & Marterest.....	1,000	16,500
JUNE 27.—By the <i>Ceinfuegos</i> =Tampico:		
New York Commercial Co.....	*5,000	
H. Marquardt & Co.....	3,500	
Flint & Co.....	3,500	62,000
JUNE 29.—By the <i>St. Paul</i> =London:		
Poel & Arnold.....		7,000
JUNE 29.—By the <i>Comus</i> =New Orleans:		
A. N. Rotholz.....	11,500	
A. T. Morse & Co.....	6,000	17,500

JUNE 30.—By the <i>El Cid</i> =Galveston:		
Edward Maurer	.....	\$30,000
Continental-Mexican Rubber Co.	.....	30,000
JULY 2.—By the <i>Caronia</i> =Liverpool:		
A. W. Brunn Co.	.....	11,500
JULY 2.—By the <i>Creole</i> =New Orleans:		
A. N. Rotholz	.....	4,500
Eggers & Heinlein	.....	2,500
JULY 8.—By the <i>Finance</i> =Colon:		
Meyer Hecht	.....	1,500
Isaac Brandon & Bros.	.....	1,000
American Trading Co.	.....	1,000
JULY 9.—By the <i>Orinoco</i> =Columbia:		
Kunhardt & Co.	.....	3,000
Isaac Brandon & Bros.	.....	2,500
Eggers & Heinlein	.....	1,500
G. Amsinck & Co.	.....	1,500
JULY 10.—By the <i>El Alba</i> =Galveston:		
Continental-Mexican Rubber Co.	.....	27,500
Edward Maurer	.....	22,500
JULY 10.—By the <i>Merida</i> =Frontera:		
E. Steiger & Co.	.....	4,500
Harburger & Stuck	.....	3,500
American Trading Co.	.....	2,000
Graham, Hinkley & Co.	.....	1,000

GUAYULE

WHEN PROPERLY CURED AND MIXED WITH OTHER COMPOUNDS
IS THE CHEAPEST RUBBER ON THE MARKET

**There is As Much Difference Between the Various Brands of Guayule
as Between Fine Para and Shoddy**

Guayule made from old, sun exposed shrub is **dead, dirty and sticky**, and no amount of washing will make it clean, while rubber made from freshly cut, selected shrub, has **life**, low percentage of resin and is practically clean.



has been on the market for several years and is known to be the best Guayule made as to life, strength, purity and low percentage of resin.

There is a large demand for a specially prepared Guayule, dry and ready for use, which we have met in



As this rubber is made exclusively from our high grade "Parra" Guayule, uniformity and absolute purity is guaranteed. No mixing in of cheap compounds to bring down the price. Durango rubber is nothing but Parra brand pure Guayule prepared so that anybody can use it.

**CONTRACTS MADE FOR REGULAR MONTHLY
OR WEEKLY DELIVERIES**

For Samples and Quotations apply to

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97 Water St., NEW YORK

**Sole Representative of the MADERO interests in Mexico,
largest owners of Guayule**

JULY 11.—By the <i>Bayamo</i> =Tampico:	
Edward Maurer.....	*75,000
JULY 11.—By the <i>Esperanza</i> =Colon:	
Isaac Brandon & Bros.....	4,500
Hirzel Feltman & Co.....	3,500
G. Amsinck & Co.....	1,000
JULY 15.—By the <i>Calderon</i> =Bahia:	
Poel & Arnold.....	50,000
A. D. Hatch & Co.....	35,000
I. H. Rossback Bros.....	22,500
New York Commercial Co.....	13,500
A. Hirsch & Co.....	6,500
JULY 15.—By the <i>Augustus Wilhelm</i> =Colon:	
A. Santos & Co.....	1,500
G. Amsinck & Co.....	1,000
Otto Gerdaud Co.....	1,000
JULY 17.—By the <i>Morro Castle</i> =Vera Cruz:	
American Trading Co.....	2,000
E. Steiger & Co.....	1,500
Graham, Hinkley & Co.....	1,500
George A. Alden & Co.....	1,000
E. W. Tibbals & Co.....	1,000
Harburger & Stack.....	1,000
JULY 20.—By the <i>Mancanillo</i> =Tampico:	
Edward Maurer.....	220,000
Isaac Kubie & Co.....	4,500
H. Marquardt & Co.....	*2,500
J. A. Kendall.....	*1,000
JULY 21.—By the <i>El Cid</i> =Galveston:	
Continental-Mexican Rubber Co.....	*33,500
JULY 16.—By the <i>Carmania</i> =Liverpool:	
J. H. Rossbach & Bros.....	18,000
JULY 18.—By the <i>Advance</i> =Colon:	
Meyer Hecht.....	7,000
G. Amsinck & Co.....	5,000
W. R. Grace & Co.....	3,000
Schulte & Goshen.....	2,500
Piza Nephews & Co.....	2,000
Hirzel, Feltman & Co.....	2,000
J. R. Morse & Co.....	1,500
Roldau & Van Sickle.....	1,500
Mecke & Co.....	1,500
Pablo Calvet Co.....	1,000
Demarest Bros. & Co.....	1,000
L. Johnson & Co.....	1,000
JULY 21.—By the <i>Zulia</i> =Maracaibo:	
G. Amsinck & Co.....	2,500
JULY 21.—By the <i>Tennyson</i> =Bahia:	
Poel & Arnold.....	11,500
New York Commercial Co.....	11,000
A. D. Hitch & Co.....	11,000
L. Johnson & Co.....	1,500
JULY 23.—By the <i>Arrato</i> =Colouette:	
G. Amsinck & Co.....	11,000
Isaac Brandon & Bros.....	2,500
Henry Maurer & Co.....	1,000
Seanz & Co.....	1,000

*This sign, in connection with imports of Centrals, denotes Guayule rubber.

AFRICANS.

JUNE 26.—By the <i>Etruria</i> =Liverpool:	
General Rubber Co.....	167,000
JUNE 27.—By the <i>Pretoria</i> =Hamburg:	
A. T. Morse & Co.....	34,000
General Rubber Co.....	13,500
George A. Alden & Co.....	2,500
JUNE 27.—By the <i>Campania</i> =Liverpool:	
Poel & Arnold.....	11,500
H. A. Gould Co.....	5,500
General Rubber Co.....	5,500
JUNE 30.—By the <i>Finland</i> =Antwerp:	
Poel & Arnold.....	11,000
JUNE 30.—By the <i>Minneapolis</i> =London:	
W. L. Gough & Co.....	5,500
Robinson & Co.....	5,500
JULY 2.—By the <i>Caronia</i> =Liverpool:	
General Rubber Co.....	30,000

JULY 6.—By the <i>Minnetonka</i> =London:	
Robinson & Co.....	3,500
JULY 6.—By the <i>Vederland</i> =Antwerp:	
Poel & Arnold.....	22,500
A. T. Morse & Co.....	5,500
JULY 8.—By the <i>Lincoln</i> =Hamburg:	
A. T. Morse & Co.....	22,500
George A. Alden & Co.....	23,500
General Rubber Co.....	11,500
W. L. Gough Co.....	1,500
JULY 9.—By the <i>Adriatic</i> =Bordeaux:	
A. T. Morse & Co.....	11,500
JULY 9.—By the <i>Umbria</i> =Liverpool:	
A. T. Morse & Co.....	11,500
General Rubber Co.....	9,000
Livesey & Co.....	1,500
JULY 11.—By the <i>Angia Victoria</i> =Hamburg:	
A. T. Morse & Co.....	22,500
Poel & Arnold.....	7,000
W. L. Gough Co.....	9,000
JULY 14.—By the <i>Mesaba</i> =London:	
Joseph Cantor.....	7,000
JULY 14.—By the <i>Zeeland</i> =Antwerp:	
Poel & Arnold.....	60,000
A. T. Morse & Co.....	75,000
George A. Alden & Co.....	20,000
Rubber Trading Co.....	8,000
Joseph Cantor.....	7,000
W. L. Gough Co.....	3,500
JULY 16.—By the <i>Carmania</i> =Liverpool:	
General Rubber Co.....	50,000
JULY 20.—By the <i>Minnehaha</i> =London:	
W. L. Gough Co.....	3,500
JULY 21.—By the <i>Noordam</i> =Rotterdam:	
Weise & Co.....	11,500
JULY 22.—By the <i>Gothland</i> =Antwerp:	
Robinson & Co.....	22,500
Joseph Cantor.....	17,000
Rubber Trading Co.....	1,000
JULY 22.—By the <i>Campania</i> =Liverpool:	
General Rubber Co.....	56,000
George A. Alden & Co.....	13,000
JULY 23.—By the <i>Pennsylvania</i> =Hamburg:	
General Rubber Co.....	11,000
A. T. Morse & Co.....	4,500
George A. Alden & Co.....	5,000

EAST INDIAN.

JUNE 23.—By the <i>Lindenfels</i> =Colombo:	
A. T. Morse & Co.....	*17,000
JUNE 29.—By the <i>St. Paul</i> =London:	
Poel & Arnold.....	*28,000
A. T. Morse & Co.....	*9,000
JUNE 30.—By the <i>Minneapolis</i> =London:	
General Rubber Co.....	14,000
JULY 6.—By the <i>Kasembas</i> =Colombo:	
A. T. Morse & Co.....	*5,000
JULY 6.—By the <i>New York</i> =London:	
Poel & Arnold.....	*11,500
Livesey & Co.....	2,000
JULY 10.—By the <i>Tudor Prince</i> =Singapore:	
Heabler & Co.....	40,000
Otto Isenstein & Co.....	22,500
JULY 13.—By the <i>St. Louis</i> =London:	
Poel & Arnold.....	*11,500
A. T. Morse & Co.....	*5,500
JULY 14.—By the <i>Mesaba</i> =London:	
Robinson & Co.....	*45,000
Earle Brothers.....	*2,500
JULY 14.—By the <i>Zeeland</i> =Antwerp:	
Rubber Trading Co.....	*11,500
JULY 15.—By the <i>Sikh</i> =Singapore:	
Otto Isenstein & Co.....	20,000
JULY 20.—By the <i>Minnehaha</i> =London:	
A. T. Morse & Co.....	5,500
Robinson & Co.....	5,500

JULY 23.—By the <i>Oceanic</i> =London:	
Poel & Arnold.....	*4,500

*Denotes plantation rubber.

GUTTA-JELUTONG.

JULY 3.—By the <i>Baltic</i> =Liverpool:	
Kurth & Wolff.....	135,000
JULY 10.—By the <i>Tudor Prince</i> =Singapore:	
Heabler & Co.....	225,000
Poel & Arnold.....	100,000
Robinson & Co.....	110,000
George A. Alden & Co.....	110,000
M. Joachimsen.....	100,000
W. L. Gough Co.....	55,000
Winter & Smillie.....	55,000
JULY 15.—By the <i>Sikh</i> =Singapore:	
Heabler & Co.....	155,000
George A. Alden & Co.....	210,000

GUTTA-PERCHA.

JULY 20.—By the <i>Minnehaha</i> =London:	
Robert Soltau Co.....	22,500
JULY 23.—By the <i>Pennsylvania</i> =Hamburg:	
Robert Soltau & Co.....	10,000
JUNE 29.—By the <i>Pretoria</i> =Hamburg:	
Robert Soltau Co.....	2,500
BALATA.	
JUNE 29.—By the <i>Coppaname</i> =Trinidad:	
Middleton Co.....	3,500
JUNE 29.—By the <i>Pretoria</i> =Hamburg:	
Earle Brothers.....	2,000
JUNE 30.—By the <i>Minneapolis</i> =London:	
H. A. Gould Co.....	4,500
JULY 6.—By the <i>Minnetonka</i> =London:	
Rubber Trading Co.....	11,500
JULY 10.—By the <i>Parima</i> =Demerara:	
George A. Alden & Co.....	2,500
JULY 16.—By the <i>Talisman</i> =Ciudad Bolivar:	
G. Amsinck & Co.....	75,000
Kunhardt & Co.....	12,000
J. A. Pauli & Co.....	2,500
JULY 20.—By the <i>Minnehaha</i> =London:	
Rubber Trading Co.....	5,500
JULY 23.—By the <i>Guiana</i> =Demerara:	
Trame & Co.....	5,500
JULY 23.—By the <i>Bordeaux</i> =Havre:	
George A. Alden & Co.....	11,500

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—JUNE.

Imports:	Pounds.	Value.
India-rubber.....	6,136,620	\$3,610,119
Balata.....	35,993	15,680
Gutta-percha.....	9,974	5,195
Gutta-jelutong (Pontianak).....	831,744	18,047
Total.....	7,014,301	\$3,649,041
Exports:	Pounds.	Value.
India-rubber.....	106,289	\$45,872
Reclaimed rubber.....	50,436	5,933
Rubber scrap imported....	560,419	\$47,132

BOSTON ARRIVALS.

JUNE 1.—By the <i>Badenia</i> =Hamburg:	
Poel & Arnold—Africans.....	5,500
JUNE 16.—By the <i>Ivernia</i> =Liverpool:	
To Order—Africans.....	22,000
JUNE 26.—By the <i>Barcelona</i> =Hamburg:	
W. L. Gough Co.—Africans.....	3,300
Total.....	30,800

PARA EXPORTS OF INDIA-RUBBER, JUNE, 1908 (IN KILOGRAMS).

	NEW YORK.						EUROPE.						
EXPORTERS.	Fine.	Medium.	Coarse.	Caucho.	TOTAL.	Fine.	Medium.	Ccarse.	Caucho.	TOTAL.	TOTAL.		
Schrader, Gruner & Co.....	11,094	1,368	33,117	205	45,784	71,098	5,100	1,391	29,885	108,374	154,158		
Gordon & Co.....	73,353	11,543	75,580	.....	160,476	26,566	4,088	.....	7,214	37,868	198,344
E. Pinto Alves & Co.....	33,490	340	40,920	.....	74,750	63,240	.....	47,190	.....	110,430	185,180
Adelbert H. Alden.....	44,398	13,571	34,244	60,397	152,610	13,430	1,360	.....	.....	14,790	167,400
Scholz, Hartje & Co.....	25,725	5,754	43,973	6,540	81,992	26,179	3,087	6,972	37,613	73,851	155,843		
De Lagotellerie & Co.....	36,888	4,964	37,045	12,210	91,107	.....	.....	.....	.....	.....	91,107
J. Marques & Co.....	4,590	340	21,450	.....	26,380	24,480	2,890	34,980	.....	62,350	88,730
Mello & Co.....	35,087	8,840	1,580	.....	46,407	7,402	2,193	520	.....	10,115	56,522
R. Suarez & Co.....	.....	.....	.....	.....	.....	30,862	50	150	19,890	50,952	50,952
Pires, Teixeira & Co.....	9,860	.....	7,260	.....	17,120	15,470	.....	15,510	.....	30,980	48,100
Sundry small shippers.....	6,511	1,657	19,620	.....	27,788	3,320	.....	3,300	.....	6,530	34,318
Itacoatiara direct.....	.....	.....	.....	.....	.....	3,337	.....	1,485	1,132	5,954	5,954
Manaos direct.....	129,889	42,852	80,110	142,323	395,174	79,306	37,826	24,037	150,396	291,565	686,739		
Imquitos direct.....	.....	.....	.....	.....	.....	5,029	502	3,329	236,576	245,436	245,436
Total, June.....	411,785	91,229	394,899	221,675	1,119,588	370,529	57,096	138,864	482,706	1,049,195	2,168,783		
Total, May.....	731,210	153,313	526,300	545,409	1,956,232	555,522	80,354	295,601	637,880	1,589,357	3,545,580		
Total, April.....	313,696	91,149	347,747	289,426	1,042,018	924,956	131,068	277,366	681,718	2,016,088	3,058,026		
Total, March.....	682,575	172,165	447,252	117,301	1,419,293	1,409,736	232,279	330,802	830,652	2,803,469	4,222,762		
Total, February.....	1,049,175	230,591	493,147	164,208	1,937,121	1,832,458	235,386	524,020	991,539	3,583,493	5,520,524		
Total, January.....	851,402	160,204	450,219	160,837	1,622,662	1,341,043	211,060	378,900	616,237	2,547,240	4,169,902		



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United States Rubber Imports.

FOR ELEVEN MONTHS ENDING MAY 31.

FROM—	1906.	1907.	1908.
United Kingdom....pounds	8,082,221	9,573,403	5,637,750
Germany.....	3,319,769	4,291,382	2,352,305
Other Europe.....	8,135,107	8,558,308	6,038,608
Central America and British Honduras.....	1,167,391	1,093,266	853,515
Mexico.....	1,149,940	6,232,753	7,550,515
Brazil.....	28,253,754	38,064,613	29,624,760
Other South America.....	1,695,010	1,742,647	1,394,324
East Indies.....	1,787,734	2,101,897	1,136,564
Other Countries.....	87,999	31,071	37,773
Total.....	53,949,925	71,689,400	54,626,074
Value.....	\$42,195,242	\$55,379,907	\$32,481,724
Average, per pound....	78.3 cents	78.1 cents	59.5 cents

Plantation Rubber From the Far East.

STATISTICS FOR FIVE MONTHS ENDING MAY 31.

RUBBER THE PRODUCE OF CEYLON.

	1907.	1908.
To Great Britain.....pounds	115,432	144,988
To Belgium.....	1,989	.....
To France.....	17	1,054
To Germany.....	10,382	12,240
To Australia.....	799	11,543
To United States.....	44,479	78,695
To other countries.....	112	1,930
Total.....	173,210	250,450

RUBBER FROM MALAYA.

	Singapore.	Penang.	Total.
To Great Britain.....pounds	694,533	338,267	1,032,800
To other Europe.....	31,467	66,933	98,400
To United States.....	400	.....	400
To Japan.....	3,333	.....	3,333
To Australia.....	10,166	.....	10,166
To Ceylon.....	85,067	33,810	118,877
Total.....	824,966	439,010	1,263,976
Same months, 1907.....	546,435	56,961	603,396

Plantation Rubber in London.

JUNE 26.—About 37 tons Straits and 4 tons Ceylon offered at to-day's auction, less than half the amount finding buyers. Sales at an irregular advance of 1d. @ 1½d. per pound over auction prices a fortnight ago. Fine sold at 4s. up to 4s. 4¾d. [= \$1.07], with hard fine Pará at 3s. 10¾d. [= 94¾ c.]. Fine plantation one year ago sold up to 5s. 7½d. [= \$1.36¾]. Gow, Wilson & Stanton, Lim., report of to-day's sale: "The most interesting lot catalogued was a consignment of 200 cases (10 tons?) of fine block from Lanadron estate (Messrs. Pears); this, however, was withdrawn from auction; the seller's limit of about 4s. 6d. [= \$1.09½] per pound net being obtainable in the room.

JULY 3.—No auctions this week. Lewis & Peat report that the market has been firm during the week, with considerable sales, including fine hard Pará at 3s. 11d. to 3s. 11½d. [= 96¼ cents]. In plantation Pará not much doing. Small sales of biscuit and sheets up to 4s. 2½d. [= \$1.02 1/3], and of fine block at 4s. 4d. [= \$1.05½].

JULY 10.—At to-day's auctions, of 521 packages of Ceylon and Straits plantation 383 found buyers at an advance of 2d. to 3d. on last auction sales. The finer qualities were in good request, the highest price of the sale, 4s. 8d. [= \$1.13½] being paid for Warriapola estate pale biscuits, Ellakande pale crepe coming next with 4s. 7½d. [= \$1.12½], the quotation for sheet and biscuits being 4s. 3½d. to 4s. 3¾d. [= \$1.040] per pound. Pressed "rambong" (Ficus) sheet from Java fetched 3s. 0½d. [= 74 cents]. The price of rubber now stands at the highest point touched since October, 1907, and hard fine Pará is about 1s. 3d. above the lowest price recorded in February of 2s. 9d. [= 66½ cents per pound.

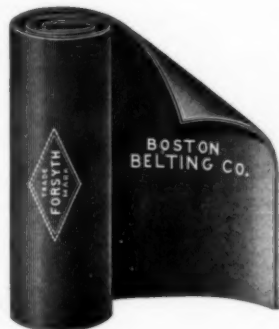
JULY 17.—Small sales privately at about rates last auction. No auction this week.

Rubber Receipts at Manaos.

DURING June and twelve months of the crop season for three years [courtesy of Messrs. Scholz & Co.]:

	1908.	1907.	1906.	1907-8.	1906-7.	1905-6.
Rio Purus-Acre.....tons	83	162	249	8,939	8,357	6,970
Rio Madeira.....	57	194	148	3,009	3,514	2,972
Rio Juruá.....	141	65	245	4,337	4,894	3,688
Rio Javary-Iquitos.....	18	126	21	2,524	2,978	2,866
Rio Solimoes.....	3	7	16	1,137	933	1,058
Rio Negro.....	12	17	35	608	632	702
Total.....	314	511	714	20,554	21,308	18,554
Cauchó.....	483	330	482	6,310	5,467	5,099
Total.....	797	841	1,196	26,864	26,775	23,653
For shipment from						
Manaos.....	735	732	912	20,145	19,837	18,212
Pará.....	62	109	284	6,719	6,938	5,441
Total.....	797	841	1,196	26,864	26,775	23,653

FORSYTH PATENT FOR PACKING WITH PLIABLE SHEET METAL INSERTION, SUSTAINED BY THE COURTS



Sheet Packing

U. S. Letters Patent, dated April 11, 1899 to James Bennett Forsyth, which has been the subject of litigation extending through the several United States Courts, to the United States Supreme Court, has been fully and broadly sustained, and covers PLIABLE SHEET METAL INSERTION PACKING in sheet, Tubular and other forms.



Tubular Gasket Packing

We are the sole manufacturers of such packings and infringers will be prosecuted.

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All Kinds for all purposes

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Springs

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Mats

Matting Treads

Diaphragms

Printers' and

Lithographers' Blankets

Forsyth Patent Deckle Straps

Uniformly flexible
The most economical

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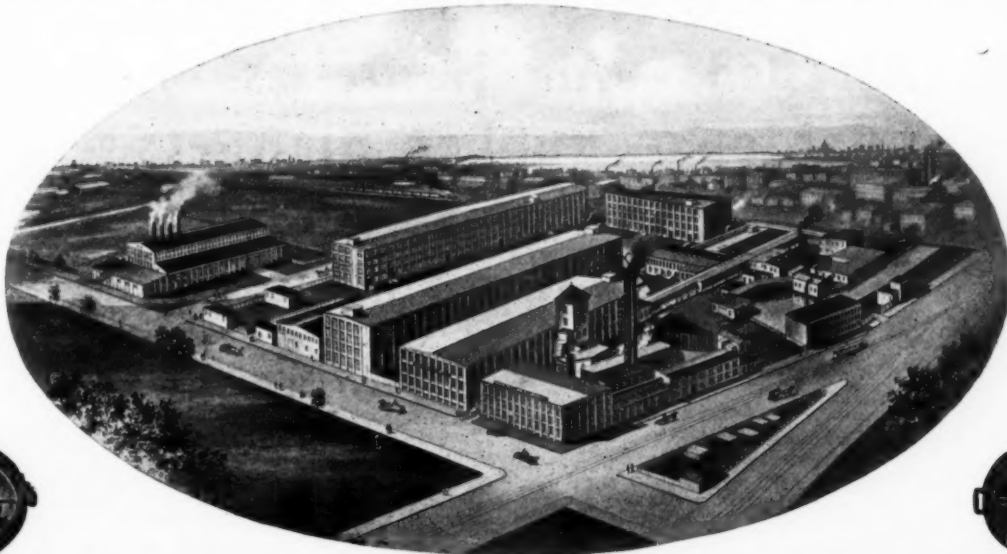
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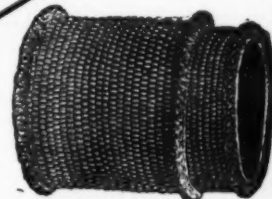
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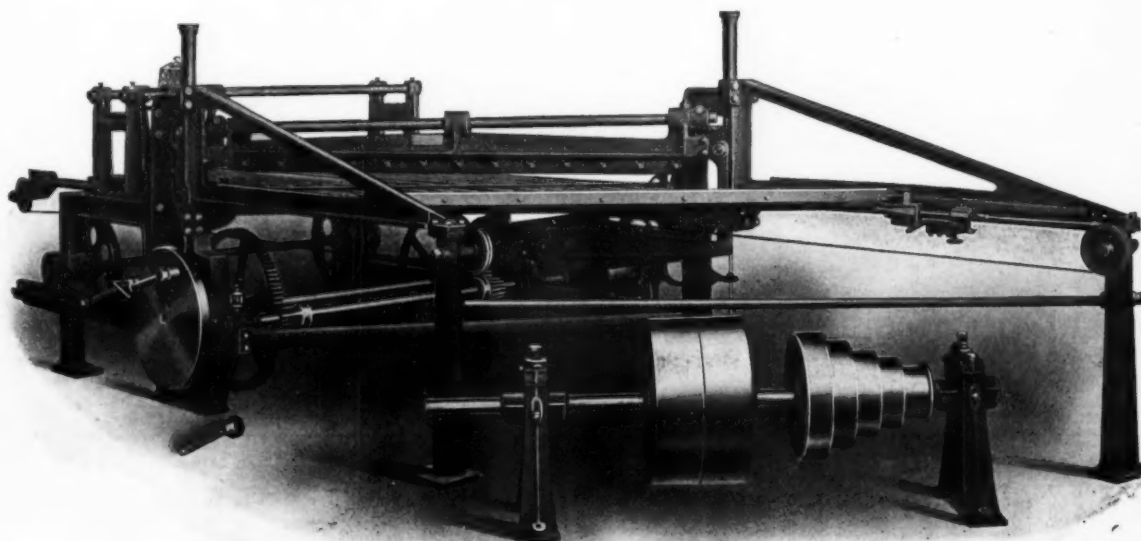
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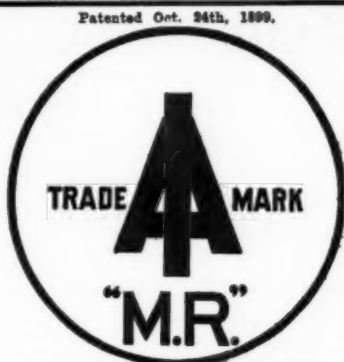
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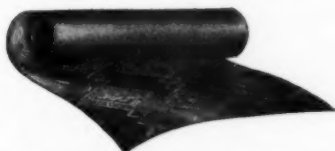
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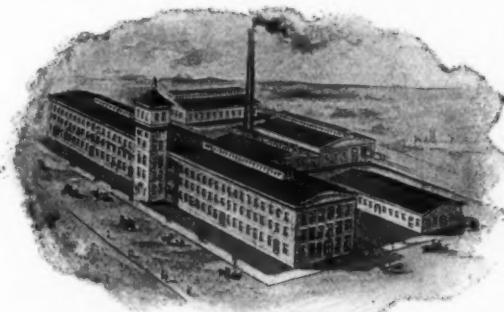
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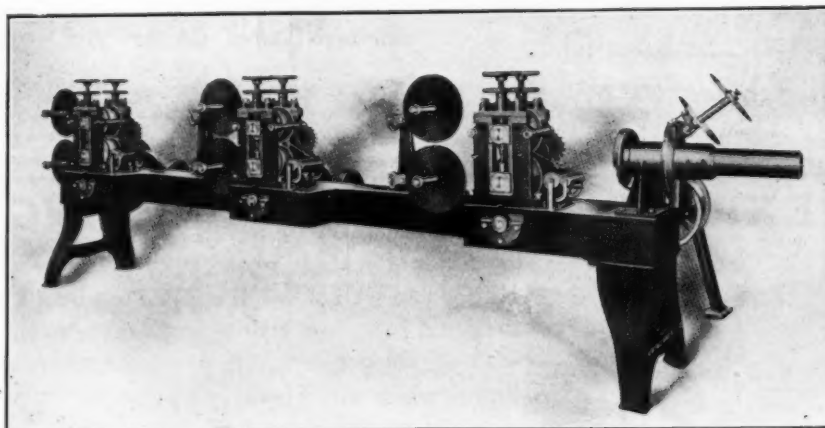
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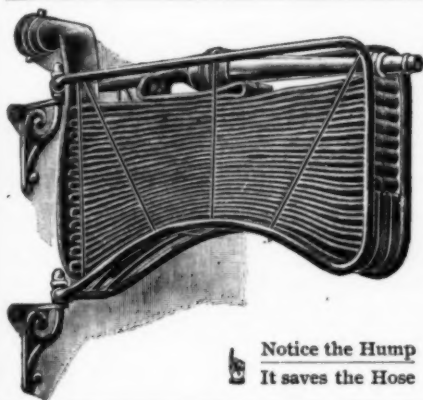
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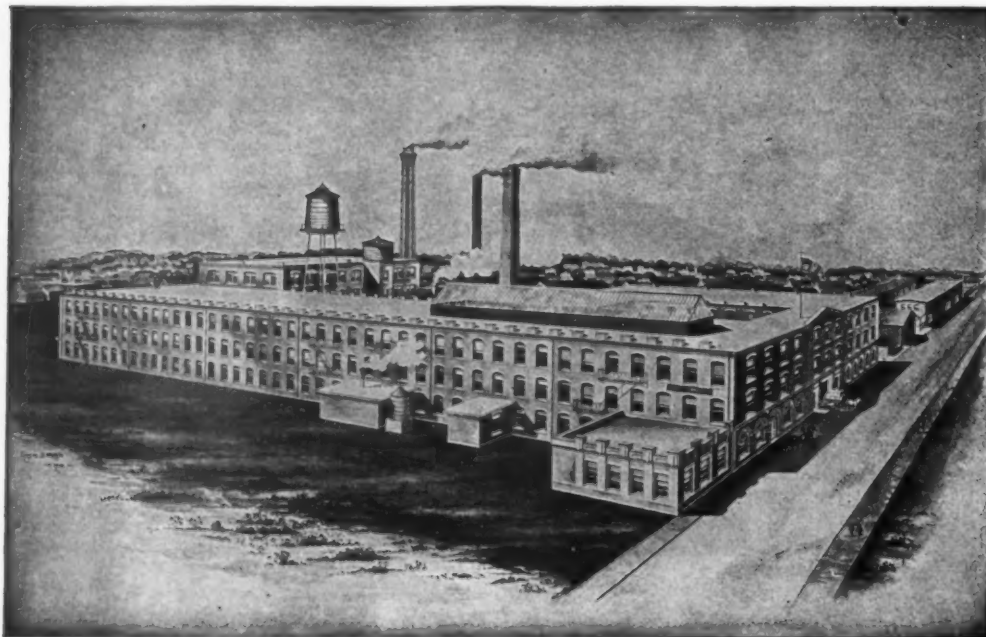
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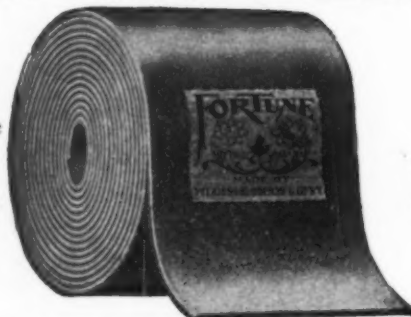
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Including Air Brake, Air Drill, Brewers', Car Heating, Dredging Sleeves, Engine and Tender, Fire, Garden, Gas, Linen, Mill, Pneumatic Tool, Signal, Steam, Suction and Water Hose

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Every foot guaranteed
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manner



We make everything
in rubber



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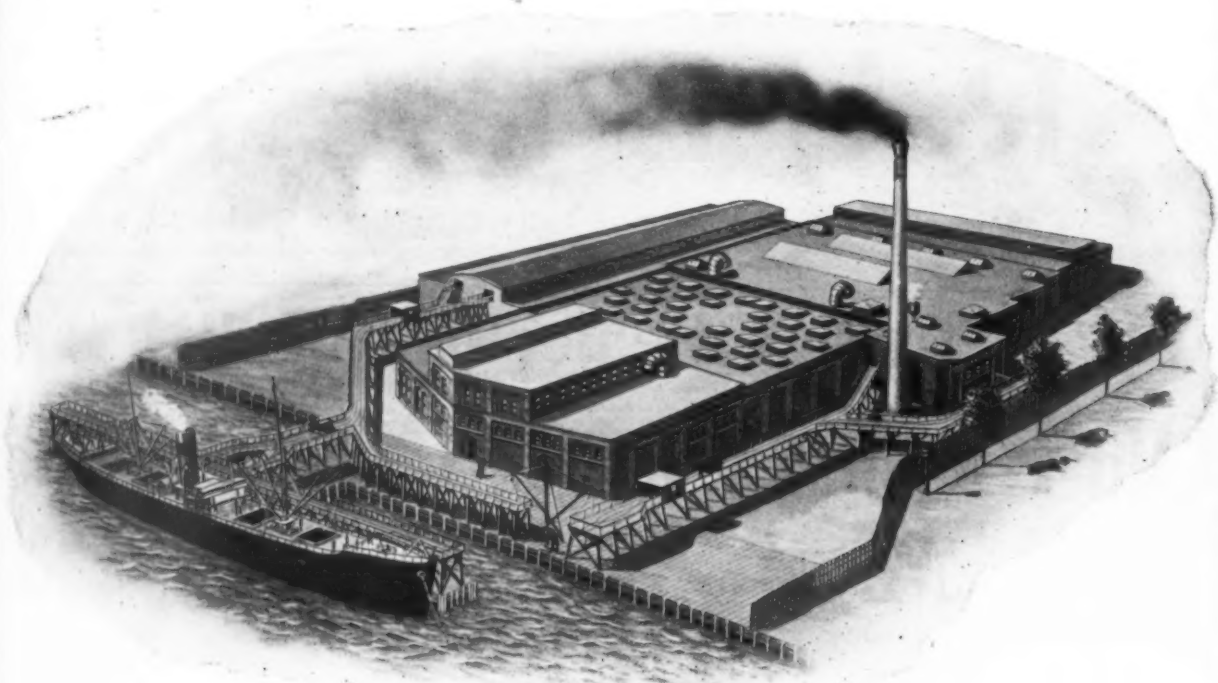
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are now being made, we are PLEASED to know that our efforts to produce goods of a quality superior to those heretofore made by us (which have established with the trade the standards of the respective grades) have been completely successful.

In thus ELEVATING the STANDARDS we make NO ADDITIONAL CHARGE for IMPROVED QUALITY.

It is with GREAT SATISFACTION that we make this announcement to our customers and the TRADE generally.



Our capacity is such that we can now fill orders promptly.

The same conditions prevail as to "WESTMINSTER" and "VICTORIA" ENGLISH CLIFFSTONE PARIS WHITE.

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AT WHICH EVERYBODY IN THE TRADE and
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THE SPECIAL
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ISSUE OF

The India Rubber World

Will be the most notable and informing issue of this
Journal yet projected.  It will con-
tain a complete resume of the Rubber
Business in all its phases.



FOR DISTRIBUTION AT OUR EXHIBIT AT
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FULL PARTICULARS FURNISHED ON APPLICATION

**PARANITE
AND PEERLESS**

RUBBER COVERED WIRES AND CABLES

Carriage Tires

SOFT RUBBER [SPECIALTIES

AND

Indiana and Wabash Single Tube Bicycle Tires

MANUFACTURED BY

The Indiana Rubber and Insulated Wire Co.

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THE MASON Reducing Valves

ARE THE WORLD'S STANDARD VALVES.

*For automatically reducing and absolutely
maintaining an even steam or air pressure.*

*They are adapted for every need and guaranteed
to work perfectly in every instance.*

WRITE FOR FULL INFORMATION AND
COLUMBIAN REFERENCE.

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Mass., U.S.A.**

Directory of the Rubber Trade for the United States and Canada now
ready. Price \$3.

THE INDIA RUBBER PUBLISHING CO.,
395 Broadway, New York.

We are making a

SUBSTITUTE FOR RUBBER

which is a vegetable oil compound con-
taining no mineral and which will

Vulcanize at the SAME degree of temperature as
rubber and which gives

**FIRMNESS, TENACITY, DUCTILITY, AND
CONTINUED RESISTANCE TO OXIDATION**

NATIONAL CO.

105 Clybourn Place - Chicago, Ill.

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CANTON, OHIO.**

Manufacturers of high class druggists' sundries.
Regular and Special work solicited.

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OFFER

TALC LITHOPONE BARYTES IRON OXIDE

Sulphurets of Antimony

**Turpentine, Benzol, Special Solvents and All Chemicals Required in the Manufacture
of Rubber Products.**

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SAIL **ARMY DUCK**
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SHEETINGS AND DRILLS. SEA ISLAND, EGYPTIAN, AND PEELER YARNS,
AND FABRICS IN REGULAR AND SPECIAL CONSTRUCTION.

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Makers of

Fine Rubber Goods

228 & 229 SOUTH STREET

NEW YORK

**KEEP YOUR EYE**
ON OUR**Specialties**

AND REMEMBER

That We Manufacture for Others,
Under Their Brands Anything in

Moulded Rubber or from Rubber Coated Cloth

ATLANTIC RUBBER COMPANY

(Incorporated)

Always glad to hear of
first-class Rubber Men **HYDE PARK, MASS.****STEPHEN P. SHARPLES****ANALYTICAL AND CONSULTING CHEMIST**

Twenty-five Years' Experience in
Methods for Recovering Rubber
from Waste.

Analysis Made of Compounded
Rubbers

OFFICE:**No. 26 Broad Street, Boston, Mass.****Springfield Tire & Rubber Company**

Manufacturers of

MECHANICAL RUBBER GOODS, BUMPERS, SPRINGS, BABY CAR
TIRES, TRUCK TIRES, PACKING, TUBING, SPRINGFIELD
ABRASIVE POLISHING WHEELS AND BLOCKS, BATH
BRUSHES, RUBBER HEELS, ETC.

14-18 North Mechanic Street, SPRINGFIELD, OHIO, U. S. A.

Special Notice TO THE Rubber Planting World**PARA, CASTILLOA, CEARA, ETC.**

Seeds and stumps forwarded to all parts of the World. Orders being
 booked from Planters, Merchants, Govt. Botanical and Agricultural Depart-
 ments, Officials, Consuls, Missionaries, Lawyers, etc., from all parts of the
 Globe.

A Government order by wire, Khartoum via Cairo (Egypt) 7th March, 1908:
 "Send 300,000 Ceara seed, 10,000 ditto stumps, 100,000 Hevea seed, 10,000
 ditto stumps, 5,000 Castilloa seed."

An Agricultural Department order from Dutch West Indies, Paramaribo,
 18th January, 1908: "Please send me as soon as you have fresh seed 90,000
 (ninety thousand) seeds of Hevea Brasiliensis; your method of packing is all
 right; the seeds shipped last year to the Superintendent of the Botanic
 Garden arrived in good condition."

A planting Company's order by telegraph, Berlin, 7th March, 1908: "Please
 send 50,000 Hevea stumps, arrival in May, Hamburg Noerman Line, the pur-
 chase money to be paid on signing, and in exchange for documents Hong
 Kong & Shanghai Banking Corporation. Please confirm order."

A Surinam Planter's order who purchased 20,000 Hevea seeds last year, 17th
 February, 1908: "I now order from you 20,000 Hevea seeds to be sent by
 parcel post packed as before; please send selected seed from mature trees.
 The best results we got are from your seeds packed as above and sent by
 Parcel post."

Special offer of seeds and stumps, with circulars, on view at the office
 of this paper and post free on application.

Seeds of celebrated Caravonica and Spence Cotton. For green manuring,
 Crotonaria Striata, Vigna, Groundnuts, etc. Price on application.

See further particulars in our advertisement in this paper, page 41.

Telegraphic Address: **J. P. WILLIAM & BROS.,**

William, Henaratgoda, Ceylon. Tropical Seed and Plants Merchants,
 Liber's, A.I. and A.B.C. Codes used. Henaratgoda, Ceylon.

Also private codes.

Mention The India Rubber World when you write.

ANTHONY BIRNBAUM, President and Treasurer

B. & G. RUBBER COMPANY

R. F. GUNTHER, General Manager

Sole Manufacturers
of theAutomobile Tubes
and Tires

High and low pressure—Self lubricating—Impervious to action of steam, oils,
 acids and alkalis. Especially adapted for mining work and steam hammers

BICYCLE TUBES and TIRESAutomobile Tires
Repaired

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ERIE, PENN'A.

The Publishers' Page

THE fact that even the best clock is not expected to strike 12 every time may serve as a homely comparison to-day, when we survey the condition of the india-rubber trade. One continues to hear of "dull times" in this trade as well as in other branches of business, but this term is, after all, only relative. What bustling times there would have been in rubber circles ten years ago, if the production and sale of goods in America or Europe had been as great as is the case to-day! The fact is that meanwhile some branches of the trade—the same as some other lines of business—have grown too fast, and with the necessary check in growth that has come, one sees more factories than usual not going at full capacity, and more factory hands employed on short time schedules. It is regrettable, of course, but the condition doesn't point to ruin or decay. In fact, we shall be surprised if better times are not coming than the trade has ever known, due partly to the more careful management to which the leaders of the trade are prompted by the shock which the nerves of the trade, so to speak, have experienced within the past few months.



NO doubt snow is coming again, as usual, and most sane people in the snow belt will want to be provided with "rubbers," as usual, for which reason the makers of these useful and no longer homely articles of footwear are planning to make enough to go around, which, in itself, means a big block of activity in the rubber world. And look at all the automobiles! More of them registered in every American State than in any previous year, and every maker of horseless vehicles planning all the time to go deeper into the business—not for the sake of paying wages, but because the best businessmen among them see prospects of more orders and bigger orders. And what's any automobile good for without rubber tires, good rubber tires, with plenty of rubber in them? We might stretch out a list of rubber necessities over three pages, but must be content this time with one page, which is enough to record our confidence in larger business coming for the rubber man, though, as we have just said, the business now in hand is by no means to be despised.

WE will talk on one more rubber factory product, however, before going on with our argument. It is air brake hose. Just now the railroads are not overburdened with business, but the American farmer, while the sun has shone this summer, has been making not only hay, but all kinds of grain and preparing for no end of meat products—to feed the world, as usual—and sooner or later the railroad managers will be having the time of their lives trying to get cars enough together to carry the crops to market. Now the law compels railway cars to be equipped with rubber, and the air brake hose and such like bought in former years—no matter how good—won't last always, and a few million feet will have to be made every year, no matter if times do seem duller just now than when some of us were a trifle younger.



TO the lookouts on the editorial watch tower real activity is apparent—real growth, if not a "boom"—real progress. There is news in the plain evidences of improved methods, improved products, all of which foreshadow improved profits. Heads of big businesses and lesser businesses who were too deeply engrossed last year in filling orders to take account as often as they ought of how they stood—as factors in the world's progress—have had time since to study a lot of things, which, we believe, are going to be of a lot of help to them. And in all this there's news; there's work now for the news gatherer and the editor and the publisher, as much now as ever, more now than when THE INDIA RUBBER WORLD was starting; but the future points to still more, all the time more.



OF course, this is our appeal for business. We can't attend to THE INDIA RUBBER WORLD in the next century, but have to be content with the present and the near future. We are striving, therefore, to make the paper of interest and value to-day, and so long as life is spared we feel convinced of being able to make it still more so. In this work we invite the co-operation of everybody in the trade; reciprocity is the soul of progress—not every man for himself and the ditch for the hindmost. A better motto is "Let every man aim to help his trade as well as helping himself," for this brings a double profit. THE INDIA RUBBER WORLD is here to help the trade, and whoever will, if he be well disposed, may take advantage of it.

THE ALUMINUM FLAKE COMPANY

Physical condition remarkable. MINERS AND REFINERS OF
Base, Metallic Aluminum
Gravity 2.58
Absolutely Inert

It toughens Rubber, gives it life and lightens gravity

ALUMINUM FLAKE

An ORIGINAL PIGMENT, Suited to All Lines of Rubber Work

THE ALUMINUM FLAKE COMPANY, Akron, O.

The Carter Bell Mfg. Co.

150 Nassau Street, New York

WHITE and BLACK

Rubber Substitutes

As a Filler
will make Rubber Goods that
will stand Heat
or Acid.

Fossil Flour

**OXFORD
TRIPOLI
COMPANY**
1167 First Ave.
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Massachusetts Talc Co.

Miners and Millers of High Grade Domestic

TALC AND SOAPSTONE

Samples and Quotations Submitted for Immediate
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OFFICES:

NORTH ADAMS, MASS.

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MANUFACTURING CO.**

Manufacturers of

RECLAIMED RUBBER

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South Framingham, Massachusetts

ERIE RUBBER WORKS

591 FRENCH STREET

ERIE, PA.

Manufacturers of

Government Standard Naval
Bottle Stoppers

Special Patented Self-Sealing
Rubber Stoppers

Write for Prices

Telegrams: "Serings Birmingham"
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THE RUBBER CHEMICAL COMPANY, Ltd.
SERINGA BUILDINGS, LUDGATE HILL, BIRMINGHAM, ENGLAND.

"ATMOID"
The lightest Rubber Drug known.

"NANTUSI"
for vulcanising and preserving Rubber.

SUBSTITUTES, free from Acid
(Serings Brand), WHITE, DARK AND RED.

SULPHUR SPECIALLY PREPARED FOR THE RUBBER TRADE.
One of our largest customers report that it gives on analysis, Mineral
Matter .030%, reaction neutral; Arsenic absent, and in our opinion is an
exceptionally good sulphur and free from acid. CORRESPONDENCE
INVITED.

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BROOKLYN SULPHUR WORKS.
Manufacturers of
Double Refined and Sublimed
FLOUR SULPHUR
Especially adapted to the use of
RUBBER MANUFACTURERS
AND WARRANTED FREE FROM GRIT.
BATTELLE & RENWICK
163 Front St., New York.

A. Petersen Co.
Akron, Ohio

The Rubber Men's
Paper Box Makers

THE FOSTER FRICTION PLUG CRUTCH AND CANE TIPS

(IN 9 SIZES)

ARE MADE OF BEST RUBBER. Don't Slip. Outwear All Others.



Foster, Catpaw and Tredair Heels are the only Heels made under FOSTER PATENTS and in common with the

FOSTERPATENTED FRICTION PLUG

Cannot Be Made by Other Concerns

Handsome Profits to Dealers

170 Summer St.
BOSTON, MASS.**FOSTER RUBBER CO.**Factory,
WALPOLE, MASS.**"RUBBERTEX"**

A patented waterproof cloth embracing all weights from muslin to 12/0 duck; strictly waterproof under all conditions, and especially adapted to the manufacture of Paulins, Horse Covers, Hatch Covers, Car Roof Linings, Canvas Shoes, Steam and Cold Water Packing, Canvas Belting, Traces, etc., etc., guaranteed to be strictly rot, acid, oil, sulphur and water proof.

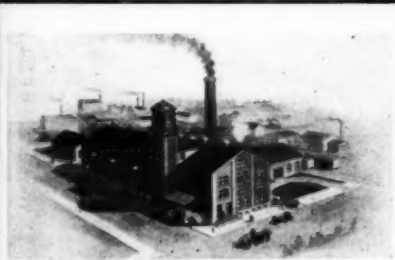
"ROOFING"

We are the manufacturers of a textile roofing guaranteed for ten years; not affected by extreme heat or cold, acids or sulphur. Positively no contraction or expansion.

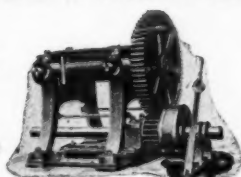
"BAGGING"

We are also water and acid proofers of all kinds of bagging fabrics, such as cement, plaster, fertilizer and sugar bags. Samples will be furnished on application.

Brattice cloth, and cloth for irrigation hose are among our specialties; write for samples.

RUBBERTEX CLOTH & PAPER CO., LOGANSPORT, INDIANA

Look for the "STAR" on

SEAMLESS RUBBER GOODSIt Stands for **QUALITY** and **DURABILITY****The Star Rubber Co.** Office and Works,
AKRON, OHIO**WE MAKE RUBBER MACHINERY IN ALL ITS BRANCHES**ALSO
GUTTA-PERCHA
AND BALATA
MACHINERY100 Page Catalogue
FreeAND
PLANTATION
TOOLS &
MACHINERYPlease send for our
catalogue in Eng-
lish, French and
GermanBridge's Improved Rubber Washer and
H. & B. Patent Friction Clutch.**DAVID BRIDGE & CO., Pear Works**Canadian Rep. MR. JOSEPH HOL- C. STILETON,
LEMB. 160 Bay Street, TORONTO, ONT. MANCHESTER, EnglandManufacturers of Rubber Specialties
for Patentees and Large Consumers.**THE BUFFALO RUBBER MFG. CO.,**
BUFFALO, N. Y.Directory of the Rubber Trade for the United
States and Canada now ready. Price \$3.**THE INDIA RUBBER PUBLISHING CO.**

395 Broadway, New York

LASTS FOR RUBBER SHOES **LAST**
MIDDLESEX LAST CO. Boston, Mass., U. S. A. **DESIGNING**
A SPECIALTY

Small Advertisement Department.

SITUATIONS WANTED

YOUNG man with 12 years' experience, thoroughly understanding the manufacture of fruit jar rings, wishes position with some first class firm to take charge of that department. Address R. C., care of THE INDIA RUBBER WORLD. [134]

STORE MANAGER OR SALESMAN.—Position wanted as Store Manager or Salesman by young man having had several years' experience in general rubber business, thoroughly familiar with all lines, and competent to take charge of large business. Best of references. Address A. B., care of THE INDIA RUBBER WORLD. [135]

SUPERINTENDENT.—Position wanted as Superintendent by a young man who thoroughly understands the compounding and manufacture of Druggists' Rubber Goods, such as Water Bottles, Bands, Bulbs, Pouches, etc. I have excellent formulae for all these goods as used in the business today, and they are up-to-date in every detail. Can also give costs of all the goods. Am employed at present with large rubber house but will change if the right opportunity presents itself. Will consider a position in the United States, Canada or abroad. Address C. R. J., care of THE INDIA RUBBER WORLD. [136]

BRANCH MANAGER or Salesman.—Middle aged man with 15 years' experience would like to manage a branch store, or is open for a position as salesman. Address B. L. A., care of THE INDIA RUBBER WORLD. [137]

THE DEVELOPER of one of the largest and most successful rubber wire and cable factories of the day is now at leisure and open to engagement. A wire and cable department in your factory, or a new plant can be made very profitable. The present is an excellent time to equip, as prices are low, deliveries prompt and labor plentiful. Address Rubber Wire Engineer, care of THE INDIA RUBBER WORLD. (1085)

SITUATIONS OPEN

SALESMAN.—Wanted a Salesman for Rubber Substitutes. He must know enough about the manufacture of rubber goods to be able to demonstrate the use of the Substitutes. Address SUBSALES, care of THE INDIA RUBBER WORLD. [138]

SALESMAN wanted to sell Reclaimed Rubber in the West. Address X. Y. Z., care of THE INDIA RUBBER WORLD. [139]

ASSISTANT PLANTATION MANAGER wanted for an established plantation. Must speak Spanish. Small pay to start on but prospects are good. Address PLAN., care of THE INDIA RUBBER WORLD. [140]

CRUDE RUBBER SALESMAN wanted. State age, experience, references, salary desired, etc. Address X. X., care of THE INDIA RUBBER WORLD. [141]

RUBBER BAND FOREMAN wanted who thoroughly understands the manufacture of rubber bands from beginning to end. Address BANDS, care of THE INDIA RUBBER WORLD. [143]

Tennis Superintendent Wanted—An expert Superintendent for Tennis and Sand Shoe Department in a large rubber factory outside of the United States. Man capable of installing and successfully operating plant with an output of 1,000 pairs a day. Address T. E. N., care of The India Rubber World. [142]

BELT AND HOSE MAKERS.—Old established company with new factory in California requires first class belt maker, also hose maker. Address W. B., care of THE INDIA RUBBER WORLD. (126)

MASTER MECHANIC.—Old established company with new factory in California requires thoroughly reliable competent man to keep machinery in order. Must be familiar with all devices used in modern plant making mechanical rubber goods. Address CALIFORNIA, care of THE INDIA RUBBER WORLD. (132)

PRESSMAN.—An old established company with new factory in California requires thoroughly competent and reliable man to take charge of small press work. Address W. F., care of THE INDIA RUBBER WORLD. (102)

SUPERINTENDENT WANTED.—Norwegian with experience in manufacturing rubber shoes wanted for Norway factory. Address NORWAY, care of THE INDIA RUBBER WORLD. (106)

WANTED by a large German Rubber Works, manufacturing Surgical Patent Rubber Goods, a reliable agent for the United States, thoroughly conversant with this line of goods and well known among the trade. No offers will be considered without unexceptional references. Address C. A. B., care of THE INDIA RUBBER WORLD. [148]

BUSINESS OPPORTUNITY

A MANAGER of an established Golf Ball business wants to arrange with party with capital (about \$5000) to buy up controlling interest. Exceptional opportunity. Present owners heavily interested in other business. A genuine opportunity to obtain a paying business. Address CONFIDENTIAL, care of "The India Rubber World." [145]

FOR SALE

FOR SALE.—Fully equipped rubber factory. Calenders, Mills, large and small Presses, Vulcanizer, Washers, 2 Boilers, and Engine. Located in Jersey City. Cheap on easy terms. Address B. E. T., care of THE INDIA RUBBER WORLD. [146]

FOR SALE.—Small rubber plant now in operation. Fully equipped for making Dipped Rubber Goods. For particulars address, LOGAN N. KELLEY, Bloomfield, N. J. [147]

FOR SALE.—Factory Rubber Waste from Rubber Cement; cleaned at a low price; sample sent free. UNITED STATES WASTE RUBBER CO., No. 487 North Warren Avenue, Brockton, Mass.

Five (5) Combination and Friction Calenders. Twenty-five (25) Grinders of all sizes. Five (5) Washers and Crackers. Twenty (20) Vulcanizers of all sizes. Twelve (12) Hydraulic and Hand Presses, some with Platens 48" square. Three (3) Hydraulic Presses 4-openings. Platens 48" square and 16" rams. Several Tubing Machines of different sizes. One (1) Refiner. Three (3) large Rubber Mill Engines. Several Fans. A large lot of shafting of all sizes. One set of a dozen different designs of Mat Moulds. A large lot of Rubber Sole Moulds. A lot of miscellaneous Rubber Mill Machinery that will be sold cheap for Cash. For all further particulars write to PHILIP MCGRODY, TRENTON, N. J.

BARGAINS IN RUBBER MACHINERY

- 1 12" x 20" 3 roll Farrel washer complete
- 1 16" x 40" 2 roll Farrel mixer complete
- 1 Pierce Mechanical Mixer
- 1 No. 2 3 1/2" bore Clark Insulating Machine

THE WIRE & TELEPHONE CO. of AMERICA, ROME, N.Y. (130)

RUBBER MACHINERY We carry a large stock and it will pay you to write us if you want to buy or sell. Factories dismantled.

W. C. COLEMAN CO., 161 Summer Street, Boston, Mass.

MACHINERY WANTED

WANTED.—A Rubber Washer with corrugated rolls of about 15 x 30 inches. Address Box 18, Cambridge, Mass. [144]

BRAZILIAN IMPORTS.

IMPORTS of manufactures of india-rubber into Brazil according to the United States consul general at Rio de Janeiro (Mr. George E. Anderson), and the share contributed by the United States for two years past, were in value as follows:

	1906	1907.
Total imports	\$583,122	\$502,725
From the United States.....	39,898	56,913

It will be seen that, whereas the total imports have declined, there has been an increase in the share of the United States.

TYPKE & KING, Ltd., 16, MINCING LANE, LONDON, E. C., ENGLAND.

JOSEPH CANTOR, AGENT IN U. S., 82-92 BEAVER STREET, NEW YORK.


RUBBER SUBSTITUTES

FREE FROM ACID. MADE FROM REFINED RAPE SEED OIL.

CRIMSON & GOLDEN SULPHURETS OF ANTIMONY

GUARANTEED RELIABLE, AND NOT TO VARY.

Mention The India Rubber World when you write.

First Qualities.  Brand.

CRIMSON and GOLDEN SULPHURETS OF ANTIMONY

Always contains same constant percentage of Free Sulphur.

Action Ges. Georg Egestorff's Salzwerke
Linden, near Hanover, Germany.

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GRASSELLI'S RUBBER MAKERS' WHITE

A Zinc Product More Effective than Zinc Oxide

Excels in

COLOR, STRENGTH, LIFE, UNIFORMITY

Highly Specialized for the Rubber Trade

THE GRASSELLI CHEMICAL COMPANY

60 Wall Street, New York

Cleveland, Ohio

Tuma River Plantation Co. of Nicaragua

15 BROAD ST. NEW YORK

Plantation of 3,000 acres, partially developed and producing 43,000 planted rubber trees growing, of which 20,000 are of producing age.

Stock sold for cash or on installments. Cash stock to participate in dividends from the start. Installment stock to draw dividends at end of installment period (50 months). Stock, \$50 per share. No less than 5 shares sold to any one.

Cash received for stock sold to be used for development purposes only.

Prospectus and other information on application.

RELIABLE, EFFECTIVE, AND OF HIGHEST GRADES

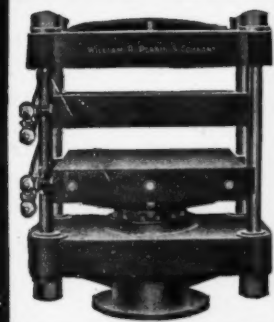
LITHOPONE

Sulphate and Carbonate of Barytes, Sulphate of Lime, Etc

GABRIEL & SCHALL, Importers

205 Pearl Street New York

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& COMPANY CHICAGO.

MORGAN & WRIGHT, DETROIT MANUFACTURERS OF GOOD RUBBER GOODS

AUTOMOBILE TIRES, VEHICLE TIRES, BICYCLE TIRES, HORSESHOE PADS, RUBBER HEELS, TAPE, HOSE, BELTING, PACKING, MECHANICAL RUBBER GOODS.

Established 1880

Philadelphia
Rubber Works
Reclaimed
Rubber

Philadelphia
U. S. A.

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H. P. Moorhouse,
29, Rue des Petites-Écuries, Paris.

Double and Single End Spreaders, Doubling Machines, Churns etc.

Write for Catalogue and Prices

AMERICAN TOOL AND MACHINE CO.
109 Beach St. BOSTON, MASS.

Pirelli & Co.

MILAN, (Italy)

AMERICAN BRANCH TIRE DEPARTMENT, NO. 296 BROADWAY,
NEW YORK.

**General India Rubber, Guttapercha and
Asbestos Manufacturers**
ELECTRIC WIRES AND CABLES

Works in Milan—Spezia & Villanueva y Geltru, (Spain)

Export: Agencies in all leading Countries

Grand Prize and 2 Gold Medals. St. Louis, 1904

GRAND PRIZE FOR TIRES

Here Concours for the other Branches

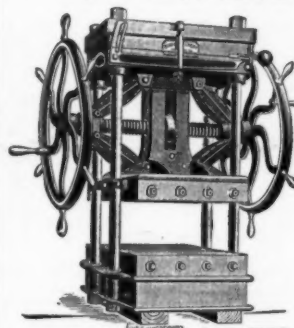
Milan, 1906

Mention The India Rubber World when you write.

STEAM PRESS

FOR

Mechanical Goods.



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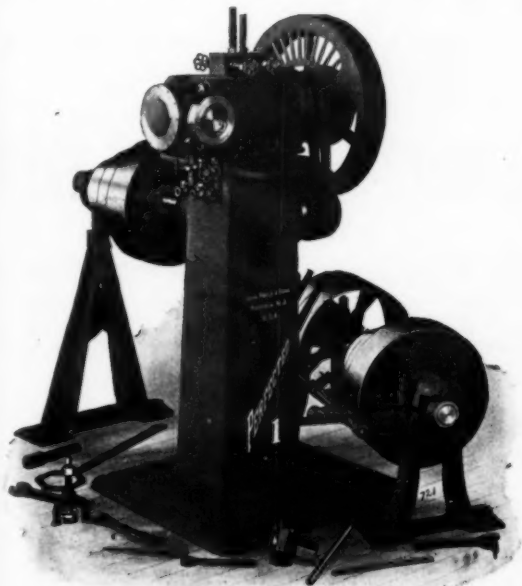
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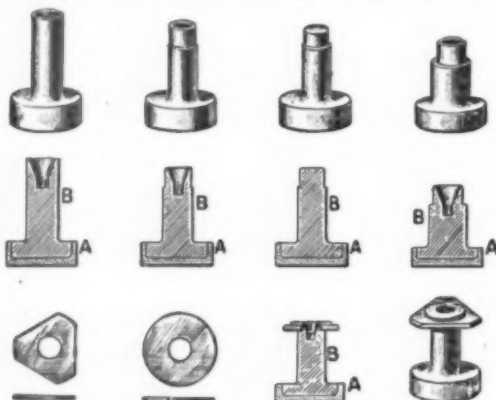
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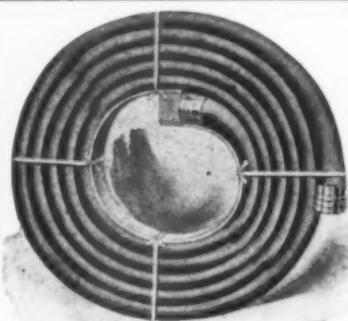
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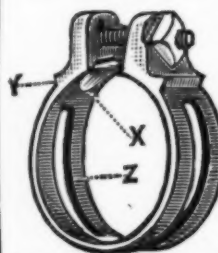
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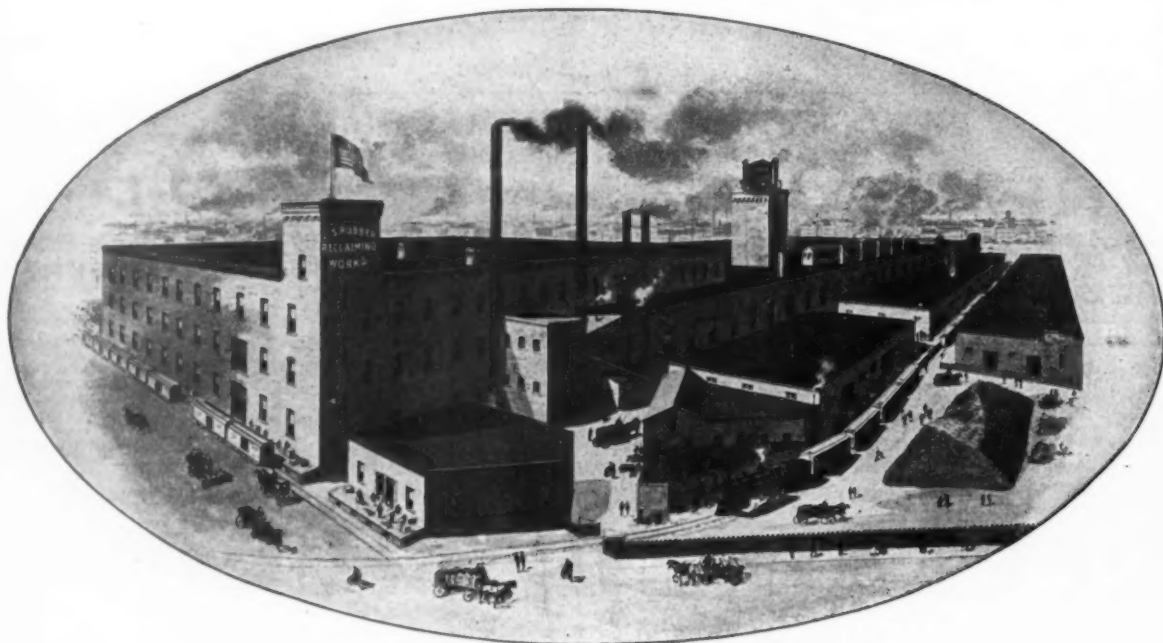
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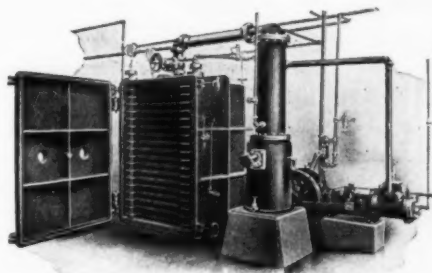
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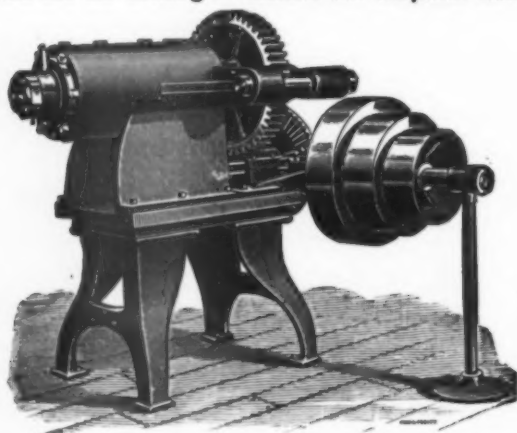
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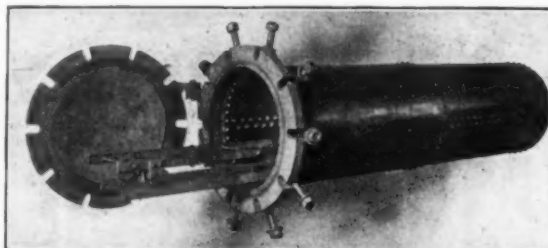
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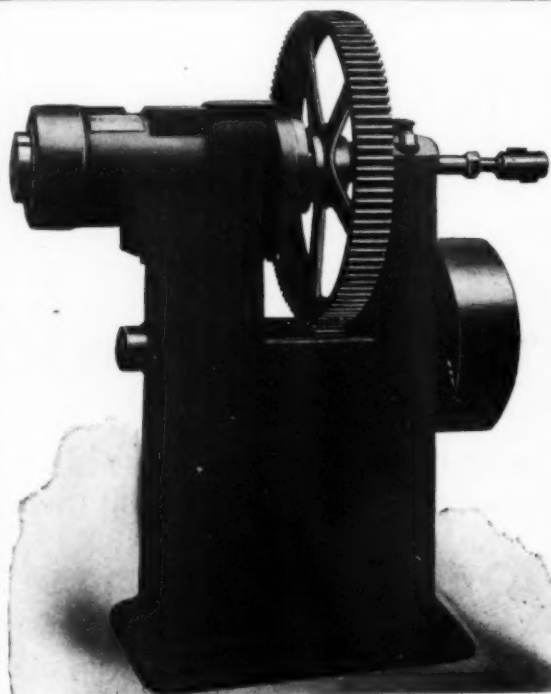
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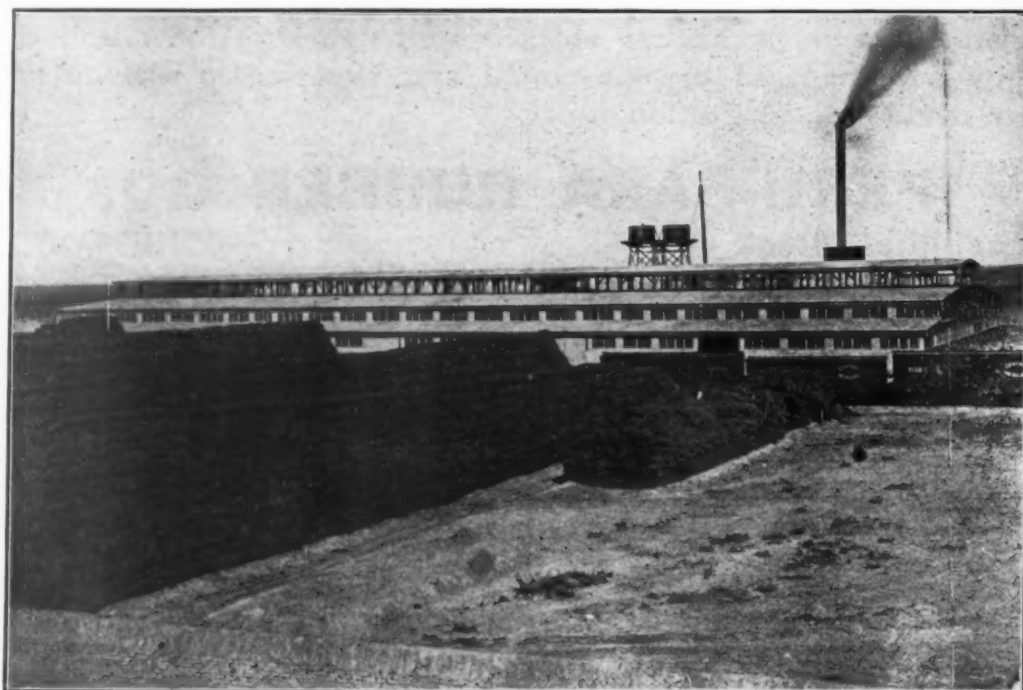
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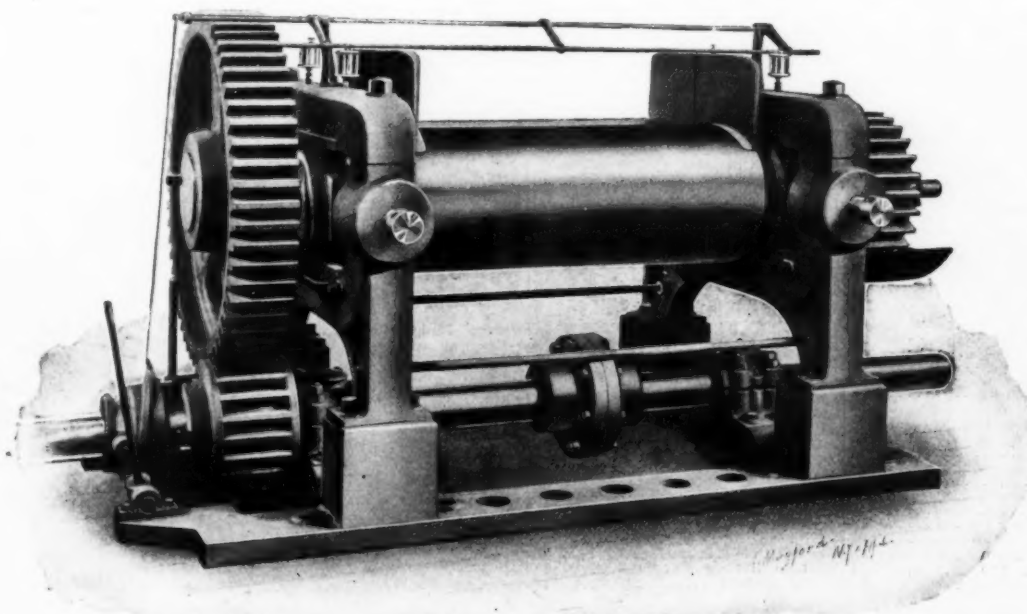
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RUBBER GRINDERS, single and double-gear—
any size

RUBBER WASHERS and CRACKERS, 2 and 3-
Roll, single and double-gear

REFINERS—WARMERS

HYDRAULIC PRESSES, all sizes, any number of
Platens, for Mould Work, Matting and Belts;

Hydraulic Stretchers and Hydraulic Clamps

SPECIAL PRESSES for making Endless Belts

EXPERIMENTAL OUTFITS

ROLLS, Chilled Iron, Dry Sand, and Steel (for engraving)

COIL FRICTION CLUTCHES (Patented)

SHAFTING, PEDESTALS, MACHINE-CUT, MACHINE-MOULDED and PATTERN GEARS

LINOLEUM and CELLULOID MACHINERY

FABRIC DRYING and SLITTING MACHINES
SPREADERS

PUMPS

ACCUMULATORS, FITTINGS, Etc.

HOSE MACHINES

CAM PRESSES

STRAINING and TUBING MACHINES

BELT-MAKING MACHINES

COMPLETE MECHANICAL, SHOE and RE-
CLAIMING PLANTS

Mention The India Rubber World when you write.

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**MECHANICAL RUBBER
GOODS.**

Belting.
Diaphragms.
Gaskets.
Hose (Fire, Garden, Steam).
Mats and Matting.
Mould Work.
Packing.
Tubing.
Valves.
Washers.

Mechanical Goods Generally.

Acme Rubber Mfg. Co., Trenton.
 American Wiring Co., Boston, New York.
 Boston Woven Hose & Rubber Co.
 Bowers Rubber Co., San Francisco, Cal.
 Canadian Rubber Co. of Montreal.
 H. O. Canfield Co., Bridgeport, Ct.
 Chicago Rubber Wks., Chicago.
 Cincinnati Rubber Mfg. Co., Cincinnati.
 Cleveland Rubber Co., Cleveland, O.
 Continental Caoutchouc & Guttapercha
 Co., Hanover, Germany.
 Continental Rubber Works, Erie, Pa.
 Dayton Rubber Mfg. Co., Dayton, O.
 The Dermatine Co., London.
 Elastic Tire & Rubber Goods Co., To-
 ronto.
 Empire Rubber Mfg. Co., Trenton, N. J.
 Fire Hose Mfg. Co., New York.
 Federal Rubber Co., Milwaukee, Wis.

Mechanical Goods—General.—Continued.

D. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
Gutta Percha & Rubber Mfg. Co., Toronto.
Home Rubber Co., Trenton, N. J.
The Indiana Rubber and Insulated Wire Co., Jonesboro, Indiana.
Lake Shore Rubber Co., Erie, Pa.
Manhattan Rubber Mfg. Co., New York.
Massachusetts Chemical Co., Walpole, Mass.
Matteson Rubber Co., Lodi, N. J.
Mechanical Rubber Co., New York.
Morgan & Wright, Detroit, Mich.
National India-Rubber Co., Bristol, R. I.
N. J. Car Spring & Packing Co., Jersey City, N. J.
New York Heating & Rubber Co., N. Y.
New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Pirelli & Co., Milan, Italy.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston—New York.
Springfield Tire & Rubber Co., Springfield, Ohio.
Jos. Treadwell Rubber Co., Trenton, N. J.
Trenton Rubber Mfg. Co., Trenton, N. J.
Voorhees Rubber Mfg. Co., Jersey City.
Western Rubber Co., Gothen, Ind.

Abrasive, Polishing Wheels and Blocks.

Springfield Tire & Rubber Co., Springfield, Ohio.

Air Brake Hose.

Boston Belting Co., Boston-New York.

Air Brake Hose—Continued.

Boston Wren Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Acme Rubber Mfg. Co., Trenton.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co.
of Toronto, Ltd.
Hose & Rubber Co., Trenton, N. J.
N. J. Car Spring & Rubber Co., Jersey
City.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.
Belting (Canvas).
Boston Wren Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Eureka Fire Hose Mfg. Co., New York.
The Gutta Percha & Rubber Mfg. Co.,
of Toronto, Ltd.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Boston-New York.
Billiard Cushions.

Belting Co., Boston.
Rubber Co. of Mont

Canadian Rubber Co. of Montreal.
Continental Rubber Works, Erie, Pa.
E. F. Goodrich & Co., Akron, O.
Guths, Percha & Rubber Mfg. Co., N. Y.
Manhattan Rubber Mfg. Co., New York.
Matteson Rubber Co., Lodl, N. J.
New York Belting & Packing Co., Ltd.
New York Rubber Co., New York.
Revere Rubber Co., Boston-New York.
Blankets—Printers'.
Peerless Rubber Mfg. Co., New York.
Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.

Blankets—Printers'.—Continued.

B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
Hodgman Rubber Co., New York.
Gustave Kush, New York.
Bevere Rubber Co., Boston-New York.
Voorhees Mfg. Co., Jersey City.

Brushes.

Boston Woven Hose & Rubber Co.
C. J. Bailey & Co., Boston.
Springfield Tire & Rubber Co., Spring-
field, Ohio.

Buffers.

Boston Belting Co., Boston-New York.
Canadian Rubber Co. of Montreal.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co.
of Toronto, Ltd.
Massachusetts Chemical Co., Walpole,
Mass.
Mattison Rubber Co., Lodi, N. J.
National India Rubber Co., Bristol, B. I.
Revere Rubber Co., Boston—New York.

Card Cloths.

Canadian Rubber Co. of Montreal.
Mechanical Fabric Co., Providence, R. I.
Carriage Mats.
Continental Rubber Works, Erie, Pa.
Acme Rubber Mfg. Co., Trenton.
Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Canada Rubber Co., Montreal.
F. G. Gericke, Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co.
of Toronto, Ltd.

RUBBER BUYERS' DIRECTORY—Continued.

Carriage Mats.—Continued.

Home Rubber Co., Trenton, N. J.
 Massachusetts Chemical Co., Walpole,
 Mass.
 National India Rubber Co., Bristol, R. I.
 N. J. Car Spring & Rubber Co., Jersey
 City, N. J.
 Peerless Rubber Mfg. Co., New York.
 Revere Rubber Co., Boston—New York.
 Voorhees Rubber Mfg. Co., Jersey City.

Cord (Pure Rubber).

Acme Rubber Mfg. Co., Trenton.
 Boston Belting Co., Boston—New York.
 Boston Woven Hose & Rubber Co.
 Cleveland Rubber Co., Cleveland, O.
 Continental Rubber Works, Erie, Pa.
 Davol Rubber Co., Providence, R. I.
 Dayton Rubber Mfg. Co., Dayton, O.
 Empire Rubber Mfg. Co., Trenton, N. J.
 B. F. Goodrich Co., Akron, O.
 Gutta Percha & Rubber Mfg. Co., N. Y.
 The Gutta Percha & Rubber Mfg. Co.
 of Toronto, Ltd.
 Manhattan Rubber Mfg. Co., New York.
 Mattson Rubber Co., Lodi, N. J.
 Republic Rubber Co., Youngstown, O.
 Revere Rubber Co., Boston—New York.
 Voorhees Rubber Mfg. Co., Jersey City.

Deckle Straps.

Boston Belting Co., Boston.
 Canadian Rubber Co. of Montreal.
 B. F. Goodrich Co., Akron, O.
 Mechanical Rubber Co., Chicago.
 New York Belting & Packing Co., N. Y.
 Republic Rubber Co., Youngstown, O.
 Revere Rubber Co., Boston—New York.

Door Springs.

Hodgman Rubber Co., New York.

Dredging Sleeves.

Acme Rubber Mfg. Co., Trenton.
 Boston Belting Co., Boston—New York.
 Boston Woven Hose & Rubber Co.
 Canadian Rubber Co. of Montreal.
 Continental Rubber Works, Erie, Pa.
 Dayton Rubber Mfg. Co., Dayton, O.
 B. F. Goodrich Co., Akron, O.
 Gutta Percha & Rubber Mfg. Co., N. Y.
 The Gutta Percha & Rubber Mfg. Co.
 of Toronto, Ltd.
 Home Rubber Co., Trenton, N. J.
 Manhattan Rubber Mfg. Co., New York.
 N. J. Car Spring & Rubber Co., Jersey
 City.
 New York Belting & Packing Co., N. Y.
 Republic Rubber Co., Youngstown, O.
 Revere Rubber Co., Boston—New York.

Force Cups.

The Gutta Percha & Rubber Mfg. Co.
 of Toronto, Ltd.
 Hodgman Rubber Co., New York.
 Mattson Rubber Co., Lodi, N. J.
 National India Rubber Co., Bristol, R. I.

Fruit Jar Rings.

Acme Rubber Mfg. Co., Trenton.
 Boston Woven Hose & Rubber Co.
 Canadian Rubber Co. of Montreal.
 Cincinnati Rubber Mfg. Co., Cincinnati,
 Ohio.
 Cleveland Rubber Co., Cleveland, O.
 Continental Rubber Works, Erie, Pa.
 Dayton Rubber Mfg. Co., Dayton, O.
 B. F. Goodrich Co., Akron, O.
 Empire Rubber Mfg. Co., Trenton, N. J.
 The Gutta Percha & Rubber Mfg. Co.
 of Toronto, Ltd.
 Manhattan Rubber Mfg. Co., New York.
 Republic Rubber Co., Youngstown, O.
 Rubber Products Co., Barborton, O.
 New York Belting & Packing Co., N. Y.

Fuller Balls.

Continental Rubber Works, Erie, Pa.
 B. F. Goodrich Co., Akron, O.
 Jenkins Bros., New York.
 Manhattan Rubber Mfg. Co., New York.
 Mattson Rubber Co., Lodi, N. J.
 National India Rubber Co., Bristol, R. I.
 N. J. Car Spring & Rubber Co., Jersey
 City.
 New York Belting & Packing Co., N. Y.
 Peerless Rubber Mfg. Co., New York.
 Republic Rubber Co., Youngstown, O.
 Rubber Products Co., Barborton, O.

Gage Glass Washers.

Boston Belting Co., Boston, Mass.
 Canadian Rubber Co. of Montreal.
 Cleveland Rubber Co., Cleveland, O.
 Continental Rubber Works, Erie, Pa.
 Dayton Rubber Mfg. Co., Dayton, O.
 Empire Rubber Mfg. Co., Trenton, N. J.
 B. F. Goodrich Co., Akron, O.
 The Gutta Percha & Rubber Mfg. Co.
 of Toronto, Ltd.
 Home Rubber Co., Trenton, N. J.
 Jenkins Bros., New York.
 Manhattan Rubber Mfg. Co., New York.

Mattson Rubber Co., Lodi, N. J.
 Mechanical Rubber Co., Chicago, Ill.
 National India Rubber Co., Bristol, R. I.
 N. J. Car Spring & Rubber Co., Jersey
 City, N. J.
 New York Belting & Packing Co., N. Y.
 New York Rubber Co., New York.
 Revere Rubber Co., Boston, Mass.
 Jos. Stokes Rubber Co., Trenton, N. J.
 Voorhees Rubber Mfg. Co., Jersey City,
 N. J.

Gas-Bags (Rubber).

Canadian Rubber Co. of Montreal.
 Cleveland Rubber Co., Cleveland, O.
 Davidson Rubber Co., Boston.
 Davol Rubber Co., Providence, R. I.
 B. F. Goodrich Co., Akron, O.
 The Gutta Percha & Rubber Mfg. Co.
 of Toronto, Ltd.
 National India Rubber Co., Bristol, R. I.
 Peerless Rubber Mfg. Co., New York.
 Tyrer Rubber Co., Andover, Mass.
 Voorhees Rubber Mfg. Co., Jersey City.

Gasket Tubing.

Boston Belting Co., Boston—New York.
 Canadian Rubber Co. of Montreal.
 Continental Rubber Works, Erie, Pa.
 B. F. Goodrich Co., Akron, O.
 The Gutta Percha & Rubber Mfg. Co.
 of Toronto, Ltd.
 Jenkins Bros., New York.
 Manhattan Rubber Mfg. Co., New York.
 National India Rubber Co., Bristol, R. I.
 New Jersey Car Spring & Rubber Co.
 Revere Rubber Co., Boston—New York.

Grain Drill Tubes.

Cincinnati Rubber Mfg. Co., Cincinnati,
 Ohio.
 Dayton Rubber Mfg. Co., Dayton, O.
 The Gutta Percha & Rubber Mfg. Co.
 of Toronto, Ltd.
 Manhattan Rubber Mfg. Co., New York.

Hat Bags.

Boston Belting Co., Boston.
 Canadian Rubber Co. of Montreal.
 Continental Rubber Works, Erie, Pa.
 B. F. Goodrich Co., Akron, O.
 Home Rubber Co., Trenton, N. J.
 Manhattan Rubber Mfg. Co., New York.
 Mattson Rubber Co., Lodi, N. J.
 Mechanical Rubber Co., Chicago.
 N. J. Car Spring & Rubber Co., Jersey
 City, N. J.
 New York Belting & Packing Co., N. Y.
 New York Rubber Co., New York.
 Peerless Rubber Mfg. Co., New York.
 Republic Rubber Co., Youngstown, O.
 Revere Rubber Co., Boston—New York.

Horse Shoe Pads.

Canadian Rubber Co. of Montreal.
 Continental Rubber Works, Erie, Pa.
 Home Rubber Co., Trenton, N. J.
 Manhattan Rubber Mfg. Co., New York.
 Peerless Rubber Mfg. Co., New York.
 Plymouth Rubber Co., Stoughton, Mass.
 Revere Rubber Co., Boston—New York.
 Voorhees Rubber Mfg. Co., Jersey City.

Hose—Wire Wound.

Acme Rubber Mfg. Co., Trenton.
 Boston Belting Co., Boston—New York.
 Boston Woven Hose & Rubber Co.
 Canadian Rubber Co. of Montreal.
 Continental Rubber Works, Erie, Pa.
 Dayton Rubber Mfg. Co., Dayton, O.
 B. F. Goodrich Co., Akron, O.
 Gutta Percha & Rubber Mfg. Co., N. Y.
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 Manhattan Rubber Mfg. Co., New York.
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 N. J. Car Spring & Rubber Co., Jersey
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 New York Belting & Packing Co., N. Y.
 Peerless Rubber Mfg. Co., New York.
 Republic Rubber Co., Youngstown, O.
 Revere Rubber Co., Boston—New York.
 Voorhees Rubber Mfg. Co., Jersey City.

Hose Core.

Almerfer Crute Co., Sharon Center, O.

Hose Pipes, Nozzles, Couplings and

Fittings.

Boston Woven Hose & Rubber Co.
 Canadian Rubber Co. of Montreal.
 Eureka Fire Hose Mfg. Co., New York.
 Revere Rubber Co., Boston.
 A. Schrader's Son, Inc., New York.
 The Gutta Percha & Rubber Mfg. Co.
 of Toronto, Ltd.

Hose Linings.

Acme Rubber Mfg. Co., Trenton.
 Boston Belting Co., Boston—New York.
 Boston Woven Hose & Rubber Co.

Empire Rubber Mfg. Co., Trenton, N. J.
 B. F. Goodrich Co., Akron, O.
 The Gutta Percha & Rubber Mfg. Co.
 of Toronto, Ltd.
 Manhattan Rubber Mfg. Co., New York.
 N. J. Car Spring & Rubber Co., Jersey
 City, N. J.
 Peerless Rubber Mfg. Co., New York.
 Revere Rubber Co., Boston—New York.

Hose Racks and Reels.

Gutta Percha & Rubber Mfg. Co., N. Y.
 The Gutta Percha & Rubber Mfg. Co.
 of Toronto, Ltd.
 New York Belting & Packing Co., N. Y.
 Wirt & Knox Mfg. Co., Philadelphia.

Hose—Rubber Lined.

Cotton and Linen.
 Acme Rubber Mfg. Co., Trenton.
 Boston Belting Co., Boston—New York.
 Boston Woven Hose & Rubber Co.
 Gutta Percha & Rubber Mfg. Co., N. Y.
 Canadian Rubber Co. of Montreal.
 Cleveland Rubber Co., Cleveland, O.
 Empire Rubber Mfg. Co., Trenton, N. J.
 Eureka Fire Hose Mfg. Co., New York.
 Fabric Fire Hose Co., New York.
 B. F. Goodrich Co., Akron, O.
 Gutta Percha & Rubber Mfg. Co., N. Y.
 Gutta Percha & Rubber Mfg. Co. of To-
 ronto.
 Home Rubber Co., Trenton, N. J.
 Manhattan Rubber Mfg. Co., New York.
 N. J. Car Spring & Rubber Co., Jersey
 City, N. J.
 New York Belting & Packing Co., N. Y.
 Peerless Rubber Mfg. Co., New York.
 Republic Rubber Co., Youngstown, O.
 Revere Rubber Co., Boston—New York.
 Jos. Stokes Rubber Co., Trenton, N. J.
 Voorhees Rubber Mfg. Co., Jersey City.

Hose—Submarine.

Acme Rubber Mfg. Co., Trenton.
 Boston Belting Co., Boston—New York.
 Boston Woven Hose & Rubber Co.
 B. F. Goodrich Co., Akron, O.
 Gutta Percha & Rubber Mfg. Co., N. Y.
 The Gutta Percha & Rubber Mfg. Co.
 of Toronto, Ltd.
 Manhattan Rubber Mfg. Co., New York.
 Republic Rubber Co., Youngstown, O.
 Revere Rubber Co., Boston—New York.
 A. Schrader's Son, Inc., New York.
 Boston Woven Hose & Rubber Co.
 William Verdon, Fort Plain, N. Y.

Lawn-Hose Supporters.

C. J. Bailey & Co., Boston.

Lawn Sprinklers.

W. D. Allen Mfg. Co., Chicago.
 Boston Woven Hose & Rubber Co.
 Canadian Rubber Co. of Montreal.

Mallets (Rubber).

Boston Belting Co., Boston—New York.
 Continental Rubber Works, Erie, Pa.
 B. F. Goodrich Co., Akron, O.
 The Gutta Percha & Rubber Mfg. Co.
 of Toronto, Ltd.
 Manhattan Rubber Mfg. Co., New York.
 National India Rubber Co., Bristol, R. I.
 New York Belting & Packing Co., N. Y.
 Peerless Rubber Mfg. Co., New York.
 Revere Rubber Co., Boston—New York.

Mould Work.

(See Mechanical Rubber Goods.)
 H. O. Canfield Co., Bridgeport, Ct.
 Canton Rubber Co., Canton, O.
 Davidson Rubber Co., Boston.
 Faultless Rubber Co., Providence, R. I.
 Hodgman Rubber Co., New York.
 Massachusetts Chemical Co., Walpole,
 Mass.
 Mattson Rubber Co., Lodi, N. J.
 Morgan & Wright, Detroit, Mich.
 Plymouth Rubber Co., Stoughton, Mass.
 Tyrer Rubber Co., Andover, Mass.

Oil Well Supplies.

Boston Belting Co., Boston—New York.
 Boston Woven Hose & Rubber Co.
 Continental Rubber Works, Erie, Pa.
 B. F. Goodrich Co., Akron, O.
 Gutta Percha & Rubber Mfg. Co., N. Y.
 The Gutta Percha & Rubber Mfg. Co.
 of Toronto, Ltd.
 Home Rubber Co., Trenton, N. J.
 Lake Shore Rubber Co., Erie, Pa.
 Manhattan Rubber Mfg. Co., New York.
 N. J. Car Spring & Rubber Co., Jersey
 City.
 New York Belting & Packing Co., N. Y.
 Peerless Rubber Mfg. Co., New York.
 Republic Rubber Co., Youngstown, O.

Revere Rubber Co., Boston—Pittsburgh.
 Voorhees Rubber Mfg. Co., Jersey City.

Packing.

(See Mechanical Rubber Goods.)
 B. & G. Rubber Co., Erie, Pa.
 Jenkins Bros., New York.
 Mattson Rubber Co., Lodi, N. J.
 Rubberite Cloth & Paper Co., Logans-
 port, Ind.

Paper Machine Rollers.

Boston Belting Co., Boston—New York.
 B. F. Goodrich Co., Akron, O.
 Gutta Percha & Rubber Mfg. Co., N. Y.
 Manhattan Rubber Mfg. Co., New York.
 New York Belting & Packing Co., N. Y.
 Peerless Rubber Mfg. Co., New York.
 Republic Rubber Co., Youngstown, O.
 Revere Rubber Co., Boston—New York.
 Voorhees Rubber Mfg. Co., Jersey City.

Plumbers' Supplies.

Canadian Rubber Co. of Montreal.
 H. O. Canfield Co., Bridgeport, Ct.
 Continental Rubber Works, Erie, Pa.
 B. F. Goodrich Co., Akron, O.
 The Gutta Percha & Rubber Mfg. Co.
 of Toronto, Ltd.
 Manhattan Rubber Mfg. Co., New York.
 Mattson Rubber Co., Lodi, N. J.
 Republic Rubber Co., Youngstown, O.
 Western Rubber Works, Goshen, Ind.

Pump Valves.

(See Mechanical Rubber Goods.)
 Jenkins Bros., New York.
 Mattson Rubber Co., Lodi, N. J.
 Massachusetts Chemical Co., Walpole,
 Mass.

Rolls—Rubber Covered.

Acme Rubber Mfg. Co., Trenton, N. J.
 Boston Belting Co., Boston.
 Canadian Rubber Co. of Montreal.
 Cleveland Rubber Co., Cleveland, O.
 Continental Rubber Works, Erie, Pa.
 Empire Rubber Mfg. Co., Trenton, N. J.
 B. F. Goodrich Co., Akron, O.
 Gutta Percha & Rubber Mfg. Co., N. Y.
 The Gutta Percha & Rubber Mfg. Co.
 of Toronto, Ltd.
 Home Rubber Co., Trenton, N. J.
 Manhattan Rubber Mfg. Co., New York.
 Mattson Rubber Co., Lodi, N. J.
 Mechanical Rubber Co., Chicago.
 N. J. Car Spring & Rubber Co., Jersey
 City, N. J.
 New York Belting & Packing Co., N. Y.
 Peerless Rubber Mfg. Co., New York.
 Plymouth Rubber Co., Stoughton, Mass.
 Republic Rubber Co., Youngstown, O.
 Revere Rubber Co., Boston—New York.

Sewing Machine Rubbers.

Continental Rubber Works, Erie, Pa.
 B. F. Goodrich Co., Akron, O.

Springs—Rubber.

Acme Rubber Mfg. Co., Trenton.
 Boston Belting Co., Boston—New York.
 Canadian Rubber Co. of Montreal.
 Continental Rubber Works, Erie, Pa.
 Dayton Rubber Mfg. Co., Dayton, O.
 B. F. Goodrich Co., Akron, O.
 Gutta Percha & Rubber Mfg. Co., N. Y.
 The Gutta Percha & Rubber Mfg. Co.
 of Toronto, Ltd.
 Manhattan Rubber Mfg. Co., New York.
 Massachusetts Chemical Co., Walpole,
 Mass.
 Mattson Rubber Co., Lodi, N. J.
 National India Rubber Co., Bristol, R. I.
 N. J. Car Spring & Rubber Co., Jersey
 City.
 New York Belting & Packing Co., N. Y.
 Peerless Rubber Mfg. Co., New York.
 Plymouth Rubber Co., Stoughton, Mass.
 Republic Rubber Co., Youngstown, O.
 Revere Rubber Co., Boston—New York.
 Voorhees Rubber Mfg. Co., Jersey City.

Stair Treads.

Acme Rubber Mfg. Co., Trenton.
 Boston Belting Co., Boston—New York.
 Boston Woven Hose & Rubber Co.
 Canadian Rubber Co. of Montreal.
 Cleveland Rubber Co., Cleveland, O.
 Continental Rubber Works, Erie, Pa.
 Empire Rubber Mfg. Co., Trenton, N. J.
 B. F. Goodrich Co., Akron, O.
 Gutta Percha & Rubber Mfg. Co., N. Y.
 The Gutta Percha & Rubber Mfg. Co.
 of Toronto, Ltd.
 Home Rubber Co., Trenton, N. J.
 Manhattan Rubber Mfg. Co., New York.
 Massachusetts Chemical Co., Walpole,
 Mass.

RUBBER BUYERS' DIRECTORY—Continued.

Stair Treads—Continued.

National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Thread.

B. F. Goodrich Co., Akron, O.
Mechanical Fabric Co., Providence, R. I.
Revere Rubber Co., Boston-New York.

Tiling.

Canadian Rubber Co., of Montreal, Ltd.
Continental Rubber Works, Erie, Pa.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Manhattan Rubber Mfg. Co., New York.
N. J. Car Spring and Rubber Co., Jersey City.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Voorhees Rubber Mfg. Co., Jersey City.

Tubing.

(See Mechanical Rubber Goods.)
American Hard Rubber Co., New York.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
Mattson Rubber Co., Lodi, N. J.
Plymouth Rubber Co., Stoughton, Mass.
Rubber Products Co., Barborton, O.
Tyer Rubber Co., Andover, Mass.

Valve Balls.

Boston Belting Co., Boston.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
B. F. Goodrich Co., Akron, O.
Jenkins Bros., New York.
Manhattan Rubber Mfg. Co., New York.
Mattson Rubber Co., Lodi, N. J.
Mechanical Rubber Co., Chicago.
National India Rubber Co., Bristol, R. I.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.

Valve Discs.

American Hard Rubber Co., New York.
Boston Belting Co., Boston-New York.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
B. F. Goodrich Co., Akron, O.
Manhattan Rubber Mfg. Co., New York.
Mattson Rubber Co., Lodi, N. J.
Mechanical Rubber Co., Chicago.
National India Rubber Co., Bristol, R. I.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.

Valves.

(See Mechanical Rubber Goods.)
Jenkins Bros., New York-Chicago.
Mattson Rubber Co., Lodi, N. J.

Vulcanite Emery Wheels.

Manhattan Rubber Mfg. Co., Passaic, N. J.
New York Belting & Packing Co., Ltd., New York.

Wringer Rolls.

Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Continental Rubber Works, Erie, Pa.
Dayton Rubber Mfg. Co., Dayton, O.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
Mattson Rubber Co., Lodi, N. J.
New York Belting & Packing Co., N. Y.
Republic Rubber Co., Youngstown, O.

DRUGGISTS' AND STATIONERS' SUNDRIES.

Atomisers.

Bandages.

Bulbs.

Nipples.

Syringes.

Water Bottles.

Druggists' Sundries, Generally.

American Hard Rubber Co., New York.
C. J. Bailey & Co., Boston.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co., of Montreal.
Canton Rubber Co., Canton, O.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
Huron Rubber Co., Cleveland, O.
L. & M. Rubber Works, Canton, Ohio.
Luzerne Rubber Co., Trenton, N. J.
National India Rubber Co., Bristol, R. I.
Parker, Stearns & Co., N. Y.
Pirelli & Co., Milan, Italy.
Rubber Products Co., Barborton, O.
Seamless Rubber Co., New Haven, Ct.
Star Rubber Co., Akron, O.
Tyer Rubber Co., Andover, Mass.
Western Specialty Mfg. Co., N. Y.

Balls, Dolls and Toys.

New York Rubber Co., New York.

Combs.

American Hard Rubber Co., New York.

Elastic Bands.

Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York-Boston.
Tyer Rubber Co., Andover, Mass.

Erasive Rubbers.

Davidson Rubber Co., Boston.
B. F. Goodrich Co., Akron, O.

Finger Cots.

Canton Rubber Co., Canton, O.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Faultless Rubber Mfg. Co., Akron, O.
Huron Rubber Co., Cleveland, O.
B. F. Goodrich Co., Akron, O.
L. & M. Rubber Works, Carrollton, O.
The Rubber Products Co., Barborton, O.

Gloves.

Canadian Rubber Co., of Montreal.
Canton Rubber Co., Canton, O.
Daval Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
L. & M. Rubber Works, Carrollton, O.
National India Rubber Co., Bristol, R. I.
Rubber Products Co., Barborton, O.

Hard Rubber Goods.

American Hard Rubber Co., New York.
Canadian Rubber Co., of Montreal.
Davidson Rubber Co., Boston.
H. O. Canfield Co., Bridgeport, Ct.
Daval Rubber Co., Providence, R. I.
Luzerne Rubber Co., Trenton, N. J.
Stokes Rubber Co., Joseph, Trenton, N. J.
Tyer Rubber Co., Andover, Mass.

Hospital Sheetings.

Cleveland Rubber Co., Cleveland, O.
Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.
Plymouth Rubber Co., Stoughton, Mass.
Tyer Rubber Co., Andover, Mass.

Ice Bags and Ice Caps.

Canton Rubber Co., Canton, O.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Faultless Rubber Co., Akron, O.
L. & M. Rubber Works, Carrollton, O.
National India Rubber Co., Bristol, R. I.
The Rubber Products Co., Barborton, O.
Tyer Rubber Co., Andover, Mass.

Life Preservers.

Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Shower Bath Sprinklers.

L. & M. Rubber Works, Carrollton, O.
A. Schrader's Son, Inc., New York.

Sponges (Rubber).

Faultless Rubber Co., Ashland, O.
N. Tire Rubber Sponge Co., Chicago.

Stationers' Sundries.

American Hard Rubber Co., New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co., of Montreal.
Cincinnati Rubber Mfg. Co., Cincinnati, Ohio.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York-Boston.
Seamless Rubber Co., New Haven, Ct.
Tyer Rubber Co., Andover, Mass.

Stopples (Rubber).

Cleveland Rubber Co., Cleveland, O.
Daval Rubber Co., Providence, R. I.
Erie Rubber Works, Erie, Pa.
Hodgman Rubber Co., New York.
Manhattan Rubber Mfg. Co., New York.
National India Rubber Co., Bristol, R. I.
New York Belting & Packing Co., N. Y.
A. Schrader's Son, Inc., New York.
Tyer Rubber Co., Andover, Mass.

Throat Bags.

Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
L. & M. Rubber Works, Carrollton, O.
National India Rubber Co., Bristol, R. I.
Tyer Rubber Co., Andover, Mass.

Tobacco Pouches.

Canadian Rubber Co., of Montreal.
Davidson Rubber Co., Boston.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
The Rubber Products Co., Barborton, O.
Tyer Rubber Co., Andover, Mass.

MACKINTOSHED AND SURFACE GOODS.

Air Goods (Rubber).

Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
New York Rubber Co., New York.
National India Rubber Co., Providence.
Rubber Products Co., Barborton, O.
Tyer Rubber Co., Andover, Mass.

Air Mattresses.

Canadian Rubber Co., of Montreal.
Mechanical Fabric Co., Providence, R. I.
National India Rubber Co., Bristol, R. I.

Barbers' Bibs.

Cleveland Rubber Co., Cleveland, O.
Daval Rubber Co., Providence, R. I.
Tyer Rubber Co., Andover, Mass.

Bathing Caps.

Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Rubber Products Co., Barborton, O.

Bellows Cloths.

Boston Rubber Co., Boston.
Cleveland Rubber Co., Cleveland, O.
Hodgman Rubber Co., New York.

Calendering.

Plymouth Rubber Co., Stoughton, Mass.

Carriage Ducks and Drills.

Acme Rubber Mfg. Co., Trenton, N. J.
Cleveland Rubber Co., Cleveland, O.
Empire Rubber Mfg. Co., Trenton, N. J.
Gutta Percha & Rubber Mfg. Co., Toronto.

Clothing.

Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
Gutta Percha & Rubber Mfg. Co., of Toronto.

Hodgman Rubber Co., New York.

National India Rubber Co., Bristol, R. I.

Pirelli & Co., Milan, Italy.

Cravenette Co., Ltd.

Diving Apparatus.

A. Schrader's Son, Inc., New York.

Hodgman Rubber Co., New York.

National India Rubber Co., Bristol, R. I.

Leggings.

Cleveland Rubber Co., Cleveland, O.

Hodgman Rubber Co., New York.

National India Rubber Co., Bristol, R. I.

Mackintoshes.

(See Clothing.)

Proofing.

Canadian Rubber Co., of Montreal.
Plymouth Rubber Co., Stoughton, Mass.

Rain Coats.

Cravenette Co., Ltd.
Rubber Coated Cloths.
Mechanical Fabric Co., Providence, R. I.
Waterproof Cloth.

Rubber Cloth & Paper Co., Loganport, Ind.

RUBBER FOOTWEAR.

Boots and Shoes.

American Rubber Co., Boston.
Boston Rubber Shoe Co., Boston.
Canadian Rubber Co., of Montreal.
L. Candee & Co., New Haven, Ct.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., of Toronto.
Hood Rubber Co., Boston.
Lycoming Rubber Co., Williamsport, Pa.
Meyer Rubber Co., New York.
National India Rubber Co., Boston.
United States Rubber Co., New York.
Wales-Goodyear Rubber Co., Boston.
Woonsocket Rubber Co., Providence.

Heels and Soles.

Boston Woven Hose & Rubber Co.
Canadian Rubber Co., of Montreal.
Continental Caoutchouc & Guttapercha Co., Hanover.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
Massachusetts Chemical Co., Walpole, Mass.
Plymouth Rubber Co., Stoughton, Mass.
Springfield Tire & Rubber Co., Springfield, Ohio.
Western Rubber Works, Goshen, Ind.

Tennis Shoes.

American Rubber Co., Boston.
Boston Rubber Shoe Co., Boston.
The Gutta Percha & Rubber Mfg. Co., of Toronto, Ltd.
National India Rubber Co., Providence.
United States Rubber Co., New York.
Wading Pants.
Canadian Rubber Co., of Montreal.
Hodgman Rubber Co., New York.

DENTAL AND STAMP RUBBER.

Dental Gum.

American Hard Rubber Co., New York.
Cleveland Rubber Co., Cleveland, O.
Tyer Rubber Co., Andover, Mass.

Rubber Dam.

Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Daval Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
Tyer Rubber Co., Andover, Mass.

Stamp Gum.

B. F. Goodrich Co., Akron, O.
Mattson Rubber Co., Lodi, N. J.
Mechanical Rubber Co., Chicago, Ill.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.

ELECTRICAL.

Electrical Supplies.

American Hard Rubber Co., New York.
Lake Shore Rubber Co., Erie, Pa.
Joseph Stokes Rubber Co., Trenton, N. J.
Massachusetts Chemical Co., Boston.
Mattson Rubber Co., Lodi, N. J.
Tyer Rubber Co., Andover, Mass.

Friction Tape.

Acme Rubber Mfg. Co., Trenton, N. J.
Boston Belting Co., Boston.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co., of Montreal.
Cleveland Rubber Co., Cleveland, O.
B. F. Goodrich Co., Akron, O.
Home Rubber Co., Trenton, N. J.
Massachusetts Chemical Co., Boston.
Mechanical Rubber Co., Chicago.
National India Rubber Co., Bristol, R. I.
Revere Rubber Co., Boston-New York.

Hard Rubber Goods.

American Hard Rubber Co., New York.
Canadian Rubber Co., of Montreal.
Luzerne Rubber Co., Trenton, N. J.
Joseph Stokes Rubber Co., Trenton, N. J.

RUBBER BUYERS' DIRECTORY—Continued.

Insulating Compounds.

Canadian Rubber Co. of Montreal.
Gutta-Percha & Rubber Mfg. Co., Toronto.
Massachusetts Chemical Co., Boston.

Insulated Wire and Cables.

Acme Rubber Mfg. Co., Trenton, N. J.
W. H. Bixey, New York.
The Indiana Rubber and Insulated Wire Co., Jonesboro, Indiana.
National India Rubber Co., Providence.

Insulated Wire Waxes.

American Wax Co., Boston.

Splicing Compounds.

Home Rubber Co., Trenton, N. J.
Massachusetts Chemical Co., Walpole, Mass.

SPORTING GOODS.

Foot Balls.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.

Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Golf Balls.

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
Davidson Rubber Co., Boston.
B. F. Goodrich Co., Akron, O.
The Gutta Percha & Rubber Mfg. Co. of Toronto, Ltd.

Sporting Goods.

Canadian Rubber Co. of Montreal.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
Tyler Rubber Co., Andover, Mass.

Striking Bags.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Rubber Products Co., Barberton, O.

Submarine Outfits.

Hodgman Rubber Co., New York.
A. Schrader's Sons, Inc., New York.

MISCELLANEOUS.

Boxes (Wood).

Henry H. Shelp & Co., Philadelphia.

Boxes (Paper).

A. Petersen Co., Akron, O.

Brass Fittings.

A. Schrader's Sons, Inc., New York.

Cement (Rubber).

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.
Manhattan Rubber Mfg. Co., New York.
Massachusetts Chemical Co., Walpole, Mass.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.

Chemists.

Maywald, F. J., New York.
Stephen P. Sharples, Boston, Mass.

Consulting Engineers.

Akron Rubber Engineering Co., Akron, O.
M. P. Fillingham, New York.

Contracting Engineer.

August Johnston, New York.

Planting.

Peru-Para Plan. Co., Chicago.
Tuma River Plan. Co., New York.

Rubber Journals.

Gummi-Zeitung, Dresden, Germany.
L'Agriculture des Pays Chauds, France.

Rubber Tree Seeds.

J. P. William & Bros., Heneratgoda, Ceylon.

Tapping Tools.

G. Van den Kerckhove, Brussels, Belgium.

Valves for Air Goods.

A. Schrader's Sons, Inc., New York.

MACHINERY AND SUPPLIES FOR RUBBER MILLS.

RUBBER MACHINERY.

Acid Tanks.

Birmingham Iron Foundry, Derby, Conn.

Band Cutting Machines.

A. Adamson, Akron, O.
Birmingham Iron Foundry, Derby, Conn.

Belt Folding Machines.

Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.

Belt Slitters.

Cloth Dryers.

Gearing.

Shafting.

Wrapping Machines.

Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.

Belt Stretchers.

Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.
Hogson & Pettis Mfg. Co., New Haven.

Boilers.

William B. Thropp, Trenton, N. J.
John B. Thropp & Sons Co., Trenton, N. J.

Braiders.

New England Butt Co., Providence, R. I.

Calenders.

Birmingham Iron Foundry, Derby, Conn.
David Bridge & Co., Castleton, Manchester, Eng.
Farrel Foundry & Mach. Co., Ansonia, Conn.
Textile-Finishing Machinery Co., Providence, R. I.

Castings.

A. Adamson, Akron, O.
Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.

Chucks (Laths).

Hogson & Pettis Mfg. Co., New Haven.

Churns.

American Tool & Machine Co., Boston.

Clutches.

Farrel Foundry & Mach. Co., Ansonia, Conn.

Crackers.

Birmingham Iron Foundry, Derby, Conn.

Devulcanizers.

Biggs Boiler Works Co., Akron, O.
Birmingham Iron Foundry, Derby, Conn.

Dies.

John J. Adams, Worcester, Mass.
Boston Die Co., Boston.
Hogson & Pettis Mfg. Co., New Haven.

Doubling Machines.

American Tool & Machine Co., Boston.

Drying Machines.

David Bridge & Co., Castleton, Manchester, Eng.
Joseph P. Devine, Buffalo, N. Y.
Birmingham Iron Foundry, Derby, Conn.
Textile-Finishing Machinery Co., Providence, R. I.

Embossing Calenders.

Textile-Finishing Machinery Co., Providence, R. I.

Engines, Steam.

William B. Thropp, Trenton, N. J.
John B. Thropp & Sons Co., Trenton, N. J.

Engraving Rolls.

Hogson & Pettis Mfg. Co., New Haven.

Grinders and Mixers.

Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.
William B. Thropp, Trenton, N. J.

Hangers.

Farrel Foundry & Mach. Co., Ansonia, Conn.

Hose Machines.

A. Adamson, Akron, O.
Birmingham Iron Foundry, Derby, Conn.
New England Butt Co., Providence, R. I.

Hydraulic Accumulators.

Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.

Insulating Machinery.

John Royle & Sons, Paterson, N. J.

Lasts (Rubber Shoe).

Middlesex Last Co., Boston.

Lathes—Hard Rubber.

A. Adamson, Akron, O.

Lathes—Jar Ring.

A. Adamson, Akron, O.
Birmingham Iron Foundry, Derby, Conn.
William B. Thropp, Trenton, N. J.

Machinists' Tools.

Hogson & Pettis Mfg. Co., New Haven.

Moulds.

A. Adamson, Akron, O.
Birmingham Iron Foundry, Derby, Conn.

Hogson & Pettis Mfg. Co., New Haven.
Williams Foundry & Machine Co., Akron, Ohio.

Pillow Blocks.

Farrel Foundry & Mach. Co., Ansonia, Conn.

Presses (for Rubber Work).

A. Adamson, Akron, O.
Birmingham Iron Foundry, Derby, Conn.
Boomer & Boschert Press Co., Syracuse, N. Y.
Edred W. Clark, Hartford, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.
William R. Ferrin & Co., Chicago Ill.
William R. Thropp, Trenton, N. J.
Williams Foundry & Machine Co., Akron, Ohio.

Pumps.

Birmingham Iron Foundry, Derby, Conn.
Boomer & Boschert Press Co., Syracuse, N. Y.
Farrel Foundry & Mach. Co., Ansonia, Conn.

Racks for Boot and Shoe Cars.

Hogson & Pettis Mfg. Co., New Haven.

Reducing Valves.

Mason Regulator Co., Boston.

Rollers (Hand).

Hogson & Pettis Mfg. Co., New Haven.

Rubber Covering Machines.

New England Butt Co., Providence, R. I.

Spreaders.

American Tool & Machine Co., Boston.
Birmingham Iron Foundry, Derby, Conn.
New England Butt Co., Providence, R. I.

Steam Traps and Specialties.

Jenkins Bros., New York.
Mason Regulator Co., Boston.
Osgood Sayen, Philadelphia, Pa.

Steel Stamps.

Hogson & Pettis Mfg. Co., New Haven.

Stitchers (Hand).

Hogson & Pettis Mfg. Co., New Haven.

Strip Covering Machines.

Strip Cutters.

New England Butt Co., Providence, R. I.

Tire Molds.

Williams Foundry & Machine Co., Akron, O.

Tubing Machines.

A. Adamson, Akron, O.
Edred W. Clark, Hartford, Conn.
John Royle & Sons, Paterson, N. J.
Williams Foundry & Machine Co., Akron, Ohio.

Vacuum Drying Chambers.

Buffalo Foundry & Machine Co., Buffalo, N. Y.
Joseph P. Devine Co., Buffalo, N. Y.

Varnishing Machines.

Birmingham Iron Foundry, Derby, Conn.

Vulcanizers.

Biggs Boiler Works Co., Akron, O.
Birmingham Iron Foundry, Derby, Conn.
Farrel Foundry & Mach. Co., Ansonia, Conn.
M. P. Fillingham, New York.
John B. Thropp's Sons Co., Trenton, N. J.
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Washers.

Birmingham Iron Foundry, Derby, Conn.
David Bridge & Co., Castleton, Manchester, Eng.
Continental Rubber Works, Erie, Pa.
Farrel Foundry & Mach. Co., Ansonia, Conn.
William B. Thropp, Trenton, N. J.

Wire Insulating Machines.

New England Butt Co., Providence, R. I.
John Royle & Sons, Paterson, N. J.

SECOND-HAND MACHINERY.

W. C. Coleman Co., Boston.
Phillip McGroarty, Trenton, N. J.
M. Norton & Co., Charlestown, Mass.

FACTORY SUPPLIES.

Aluminum Flake.

Aluminum Flake Co., Akron, O.

Antimony, Sulphurets of.

Golden.

Action-Ges. Georg Hegestorff's Salzwerke, Linden, Germany.
Atlas Chemical Co., Newtonville, Mass.
Avery Chemical Co., Boston.

Golden and Crimson.

Joseph Cantor, New York.
Golden and Crimson.
Wm. H. Scheel, New York.

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Type & King, London, England.

Balata.

George A. Alden & Co., Boston.

Barytes.

Avery Chemical Co., Boston.

Benzol.

Avery Chemical Co., Boston.
Barrett Mfg. Co., Philadelphia.
Samuel Cabot, Boston.

Black Hypo.

Joseph Cantor, New York.
William H. Scheel, New York.
Type & King, London, England.

Carbon Bisulphide.

George W. Speaight, New York.

Chemicals.

Massachusetts Talc Co., Boston.
Oxford Tripoli Co., New York.
George W. Speaight, New York.
S. P. Wetherill Co., Philadelphia, Pa.

Colors.

Joseph Cantor, New York.
William H. Scheel, New York.
Type & King, London, England.
S. P. Wetherill Co., Philadelphia, Pa.

Crude Rubber.

George A. Alden & Co., Boston.
W. C. Coleman Co., Boston.
Wallace L. Gough Co., New York.
Hagermeyer & Brunn, New York.
Adolph Misch & Co., New York.
Rubber Trading Co., New York-Boston.

Dermatine.

The Dermatine Co., London.

Ducks and Drills (Cotton).

J. H. Lane & Co., New York.

Gilsonite.

William H. Scheel, New York.

Graphite Grease.

Joe. Dixon Crucible Co., Jersey City.

Guayule Rubber.

Continental Rubber Co.
Ed. Maurer, New York.

Gutta-Percha.

George A. Alden & Co., Boston.
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Rubber Trading Co., New York-Boston.

Hydro-Carbon Products.

Geo. A. Alden & Co., Boston.
American Wax Co., Boston.
William H. Scheel, New York.
Raven Mining Co., Chicago.

Infusorial Earth.

Stamford (Conn.) Rubber Supply Co.

Iron Oxide.

Avery Chemical Co., Boston.

Kapak.

Raven Mining Co., Chicago.

Lampblack.

Samuel Cabot, Boston.

Lead—Blue.**Lead—Sublimed White.**

Picher Lead Co., Chicago, Ill.

Lithopone.

Avery Chemical Co., Boston.

Gabriel & Schall, New York.

Mineral Rubber.

Geo. A. Alden & Co., Boston.

Paris White and Whiting.

H. F. Taintor Mfg. Co., New York.

Reclaimed Rubber.

Aladdin Rubber Co., Akron, O.

Alkali Rubber Co., Akron, O.

F. H. Appleton & Son, Boston.
Bloomington (N. J.) Soft Rubber Co.
E. H. Clapp Rubber Co., Boston, Mass.
W. C. Coleman Co., Boston.
Danversport Rubber Co., Boston.
Derby Rubber Co., Derby, Conn.
Eastern Rubber Co., New York.
Manufacturers' Co., Phila., Pa.
New Jersey Rubber Co., Lambertville.
N. J.
Pequanoc Rubber Co., Butler, N. J.
Philadelphia Rubber Works, Philadelphia.
Rickaby Rubber Mfg. Co., South Framingham, Mass.
Rothschild, H., New York.
Stockton Rubber Co., Stockton, N. J.
Joe. Stokes Rubber Co., Trenton, N. J.
S. & L. Rubber Co., Chester, Pa.
U. S. Rubber Reclaiming Works, N. Y.
Westmoreland Rubber Mfg. Co., Grapeville, Pa.

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H. P. Moorhouse, Paris, France.
Rubber Trading Co., New York-Boston.
Wm. Somerville's Sons, Liverpool.

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Massachusetts Chemical Co., Walpole, Mass.

Rubber Makers' White.

Grasselli Chemical Co., N. Y.

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United States Waste Rubber Co., Brockton, Mass.
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B. A. Zacks & Sons, Erie, Pa.

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Carter, Bell Mfg. Co., New York.
Corn Products Refining Co., New York.
C. P. Dos Santos, New York.
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